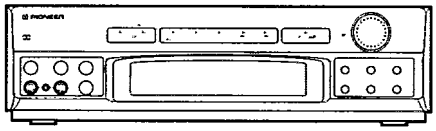
PIONEER®
The Art of Entertainment

Service Manual



ORDER NO.
RRV1050

SOUND FIELD PROCESSOR
SP-J720K
SP-J420
SOUND IMAGE CONTROLLER
GR-J320

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Type	Model			Power Requirement	Remarks
	SP-J720K	SP-J420	GR-J320		
ADL	○	○	○	AC power supplied from power transformer's secondary of other system component	———
AEIW	○	—	—		
AEZIW	—	○	○		
AB	—	○	○		

- **These products are systems components.**
  Each of these products does not function properly when independent ; to avoid malfunctions, be sure to connect it to the prescribed system component(s), otherwise damage may result.
  These products' instructions are contained within the instruction manual of the related system component(s).
  The manual is packed with those component(s).
  These products' accessories etc. are packed with their related component(s).
- **When SP−J720K is operated independently, connect AC26V to MAIN ASSY TP terminals AC1 and AC2, and connect input/output signals to TP terminals of L IN, R IN, L OUT, R OUT, C OUT, and S OUT.**
  At this time, since communication between SX−J720 and CLD−J720 is terminated, all operations cannot be confirmed. (KARAOKE MPX cannot be switched to Hi-Fi MPX.) Also, keep in mind that, after SCENE SELECTOR changeover and other keys are operated, there is a 2−second delay before they operate.

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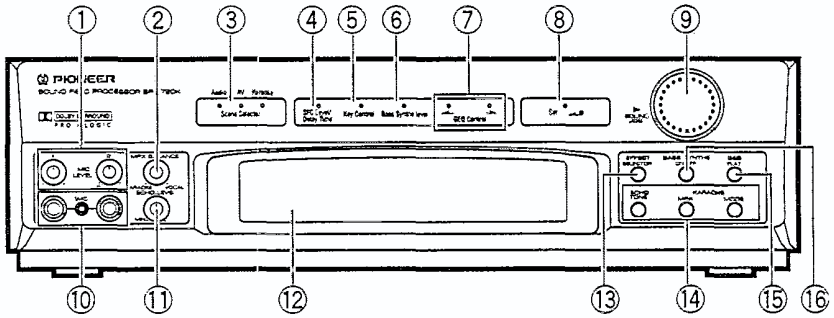
CHAPTER 1

1.1 PANEL FACILITIES

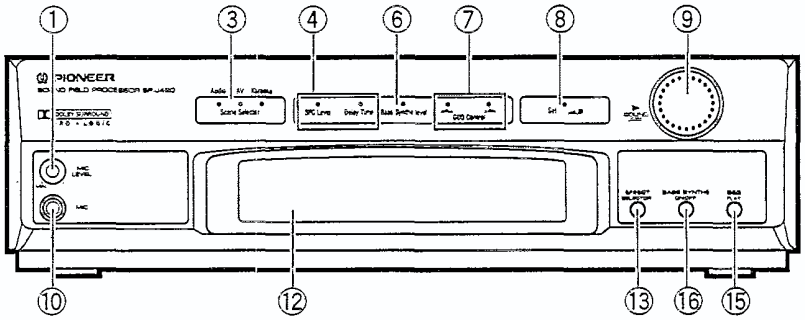
FRONT PANEL FACILITIES

This unit features an "illumination guide function" which uses flashing indicators to show which controls should be manipulated next.

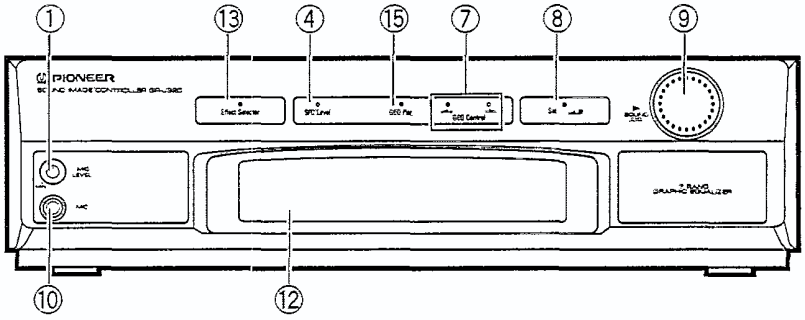
[SP-J720K]



[SP-J420]



[GR-J320]



① **MIC LEVEL control(s)**
Used for adjusting the volume of microphone.

② **MPX BALANCE control (SP-J720K only)**
Used for adjusting the sound balance when the KARAOKE MPX button is set to MPX or HiFi MPX. Rotating the dial to the KARAOKE side de-emphasizes the playback vocal frequencies, thus producing sound suitable for karaoke-type sing-along; turning the dial to the VOCAL side restores the playback sound with its original vocals.

NOTE:
The MPX BALANCE control does not operate when the Scene Selector is set to any position other than KARAOKE, or when the KARAOKE MPX button is set to STEREO.

③ **Scene Selector button/indicator (SP-J720K and SP-J420 only)**
Each time this button is pressed, the scene changes as follows:
→ **Audio scene:** for audio playback
↓
AV scene: for audio and video playback
↓
Karaoke scene: for karaoke sing-along
Set this selector in accordance with your purpose.

④ **SFC Level/Delay Time button/indicator**
SFC Level: Set to ON to adjust the sound field control level.
Delay Time (except GR-J320): Set to ON to adjust the DOLBY PRO LOGIC SURROUND delay time.

⑤ **Key Control button/indicator (SP-J720K only)**
When this button is set to ON with the Scene Selector button set to KARAOKE, the pitch of the musical accompaniment can be modified to suit your own vocal range.

⑥ **Bass Synthe Level button/indicator (SP-J720K and SP-J420 only)**
Set to ON to adjust the bass synthe level.

⑦ **GEQ Control buttons/indicator**
Use to select frequencies to be boosted or attenuated with the graphic equalizer.

⑧ **Set button**
Use when adjusting the sound effect and tone.

⑨ **SOUND JOG dial**
Use when adjusting the sound effect and tone.

⑩ **MIC (microphone) jack(s)**
This standard jack can be used for connecting a microphone. MC jack (SP-J720K only): When using a microphone equipped with a key controller, the microphone is connected to the key control jack.

⑪ **ECHO LEVEL control (SP-J720K only)**
This function operates only when the Scene Selector is set to the KARAOKE position.
After using the ECHO TONE button to select the echo mode, this dial can be used to vary the amount of echo applied.

⑫ **Display section**

⑬ **EFFECT SELECTOR button**
[SP-J720K or SP-J420]
Used to select a desired sound field in correspondence to the scene selected with the Scene Selector button ③.
Each time the button is pressed, the sound field changes as follows, in accordance with the "scene" chosen:

Audio scene:
→ DISCO → HALL → STADIUM → OFF →

AV scene:
→ DOLBY PRO LOGIC SURROUND → DOLBY 3CH LOGIC → OFF ← MOVIE ←

Karaoke scene:
→ HALL → STADIUM → STAGE → OFF →

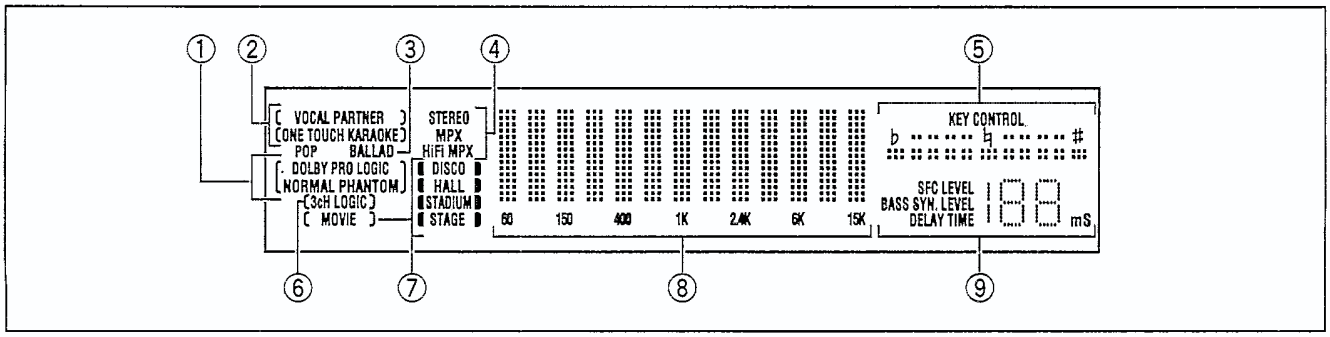
[GR-J320]
Used to select the kind of desired sound field.
Each time the button is pressed, the sound field changes as follows.
→ DISCO → HALL → STADIUM → OFF →

⑭ **KARAOKE selector buttons (SP-J720K only)**
This function operates only when the Scene Selector is set to the KARAOKE position.
ECHO TONE: Each time this button is pressed, the echo mode changes as follows:
Pops ↔ Ballad
MPX: Changes the audio mode as follows:
→ Stereo → MPX → HiFi MPX →
- This function cannot be set to stereo when using multiplex discs.
- HiFi MPX can be set only when using digital multiplex multi-audio discs.

MODE: Changes the mode as follows:
→ One-Touch KARAOKE → Vocal Partner → OFF ←

⑮ **GEQ FLAT button/indicator**
When this button is pressed, the graphic equalizer tone patterns are reset to their flat (normal) position.

⑯ **BASS SYNTHE ON/OFF button (SP-J720K and SP-J420 only)**
Use to switch the bass emphasis circuit ON and OFF.



Display section

① Lights when DOLBY PRO LOGIC SURROUND is ON. The lamp for the type of surround (NORMAL or PHANTOM) also lights as appropriate (on SP-J720K and SP-J420 only).
② Lights in accordance with setting of KARAOKE MODE button (SP-J720K only).
③ Lights in accordance with the setting of the ECHO TONE button (SP-J720K only).
④ Lights in accordance with the setting of the KARAOKE MPX button (SP-J720K only).
⑤ Displays key-control status (SP-J720K).
⑥ When DOLBY 3CH Logic is ON, displays [ ].
⑦ Indicates selected SFC with ( ) (or [ ]) display.
⑧ Displays spectrum analyzer patterns and operation messages.
⑨ Displays the SFC level. With the SP-J720K and SP-J420, it also displays the Bass Synthe level and Delay Time.

1.2 SPECIFICATIONS

Central frequencies ..... 60 Hz, 150 Hz, 400 Hz, 1 kHz, 2.4 kHz, 6 kHz, 15 kHz
Maximum range of variation ..... ± 10dB

Spectrum Analyzer Section

Central frequencies ..... 60 Hz, 150 Hz, 400 Hz, 1 kHz, 2.4 kHz, 6 kHz, 15 kHz
External dimensions ..... 360 (W) x 348 (D) x 90.5 (H) mm
Weight ..... 3.7 kg

1.3 ADJUSTMENTS

■ DOLBY PRO-LOGIC ADJUSTMENT METHOD (SP−J720K AND SP−J420 ONLY)

1. Connect SP−J720K (SP−J420) and SX−J720 (SX−J420).
2. Turn SX−J720 (SX−J420) SOURCE DIRECT to OFF, FUNCTION to VIDEO, and SP−J720K (SP−J420) SCENE SELECTOR to AV (DOLBY PRO-LOGIC) mode.
3. Input a 212mV sine wave to the VIDEO IN (L/R) terminals. (But the input signal for R should be 180° inverse of the input signal for L.)
4. Adjust VR201 so that TP903 in the DSP assy is 300mV. (SP−J720K ONLY)
4. Adjust VR1901 so that CN1903-PIN 1 in the PRO-LOGIC assy is 300mV. (SP−J420 ONLY)

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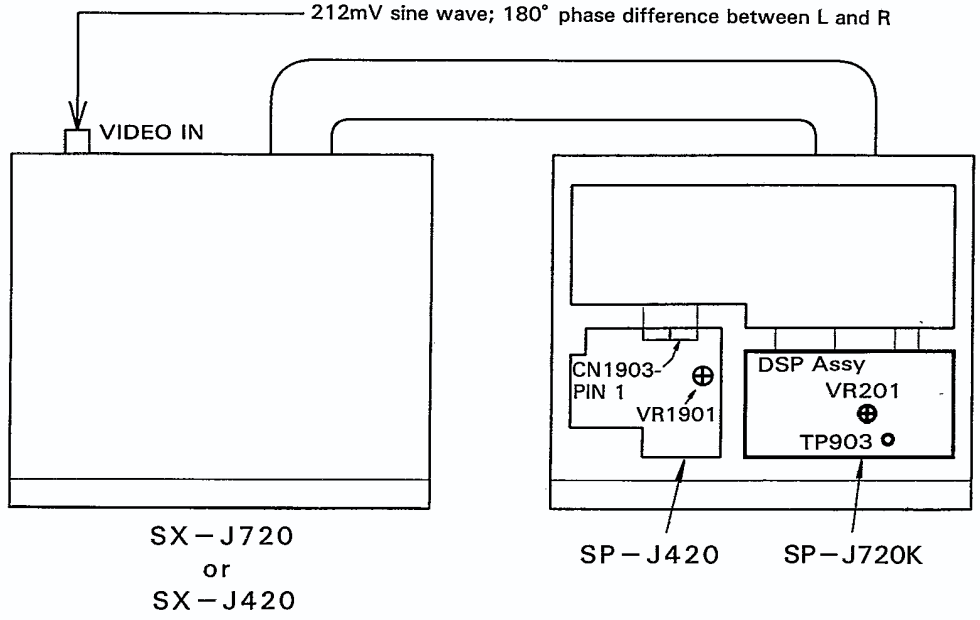


1.4 IC INFORMATION

- *The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.*

■ PDC013A (IC1201 : U-COM ASSY)

● System Control Microcomputer

● Pin Functions

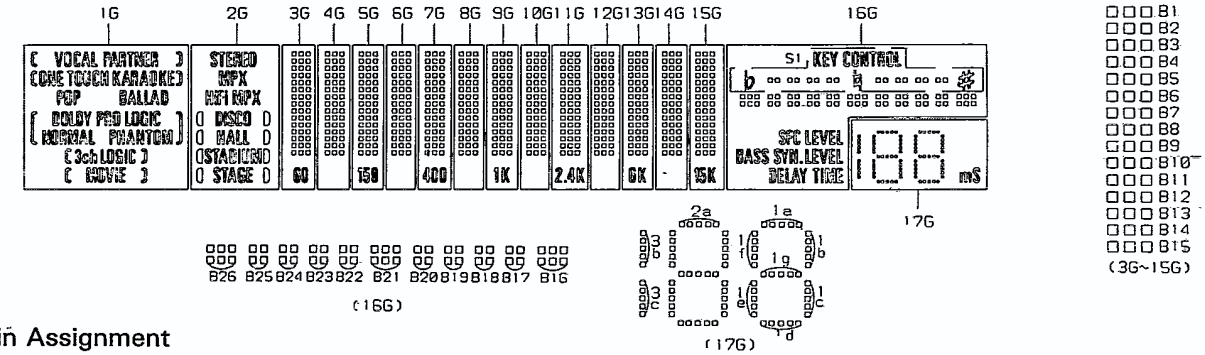
No.	Name	Function	I/O	Description
1	P35	$\overline{\text{KEYCON UP}}$	I	Keycon Up by MIC control
2	P36	S. DATA	I/O	Communication with receiver microcomputer
3	P37	GEQ R/E	I/O	
4	PWM1	N.C	O	OPEN
5	TEST1	N.C	O	OPEN
6	$\overline{\text{RES}}$	RESET	I	Processor microcomputer reset signal
7	X11	X11	O	Connects to VDD
8	X12	N.C	I	OPEN
9	VSS	GND	–	GND terminal
10	CF1	CF 1	I	Microcomputer clock input
11	CF2	CF 2	O	Microcomputer clock output
12	VDD	VDD	–	+5V
13	P80/AN0	SPA IN	I	XRA3826 output signal input
14	P81/AN1	$\overline{\text{WARICOMI}}$	I	MIC input signal detection
15	P82/AN2	COUNTRY A	I	Destination changeover
16	P83/AN3	COUNTRY B	I	
17	P84/AN4	KI4	I	KEY MATRIX input
↓	↓	↓		
20	P87/AN7	KI1		
21	P70/INT0	S. CLOCK	I	Communication with receiver microcomputer
22	P71/INT1	AC IN	I	POWER ON/OFF detection circuit
23	P72/INT2	JOG B	I	Signal from JOG
24	P73/INT3	JOG A	I	
25	S0/T0	1G	O	FL grid operating signal
↓	↓	↓		
40	S15/T15	16G		
41	VDDVPP	–	–	+5V

No.	Name	Function	I/O	Description
42	VP	–	–	−30V
43	S16	1S	O	FL segment operating signal
↓	↓			
58	S31	16S		
59	P00	17G	O	FL grid operating signal
60	P01	MUTE	O	MUTE signal output
61	P02	N. C	O	OPEN
62	P03	ST	O	M66311 operation (LED DRIVER)
63	P04	CLOCK	O	
64	P05	DATA	O	
65	P06	3826C	O	XRA3826 control
66	P07	3826B	O	
67	VSS	VSS	–	GND terminal
68	P10/SO0	3826A	O	XRA3826 control
69	P11/SI0/SB0	3826 RESET	O	
70	P12/SCK0	001 ST	O	Karaoke processor PDQ001A control
71	P13/SO1	001 CLOCK	O	
72	P14/SI1/SB1	001 DATA	O	
73	P15/SCK1	CLOCK	O	Joint CLOCK and DATA for M66320 (inside PRO-LOGIC assy). MULTIPLEX CONTROL (M66320) and B. SYNTHE LEVEL (TC9154)
74	P16/BUZ	DATA	O	
75	P17/PWM0	M66320 STA	O	M66320 (inside PRO-LOGIC assy) ST
76	P30	TC9154 ST	O	TC9154 ST
77	P31	M66320 ST B	O	M66320 (inside MAIN assy) ST
78	P32	7522 DATA	O	G. EQ IC (LC7522) control
79	P33	7522 CLOCK	O	
80	P34	$\overline{\text{KEYCON DOWN}}$	I	Keycon DOWN by MIC control

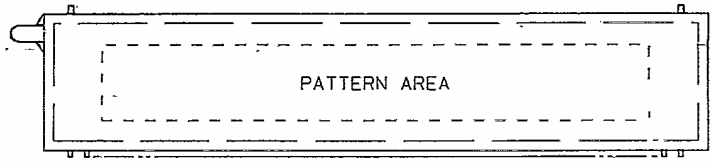
■ AAV1187 (V1251 : FRONT ASSY)

● FL Tube

● Grid Assignment


1G 2G 3G 4G 5G 6G 7G 8G 9G 10G 11G 12G 13G 14G 15G 16G
(VOCAL PARTNER)
(ONE TOUCH KARAOKE)
POP BALLAD
[DOLBY PRO LOGIC]
[NORMAL PHANTOM]
(3ch LOGIC)
(MOVIE)
STEREO
MPX
HIFI MPX
(DISCO)
(HALL)
(STADIUM)
(STAGE)
60 150 400 1K 2.4K 6K 15K
S1 KEY CONTROL
SFC LEVEL
BASS SYN.LEVEL
DELAY TIME
mS
17G
B26 B25 B24 B23 B22 B21 B20 B19 B18 B17 B16
(16G)
2a 1a 1b 1c 1d 1e 1f 1g 3b 3c
(17G)
B1 B2 B3 B4 B5 B6 B7 B8 B9 B10 B11 B12 B13 B14 B15
(3G~15G)

● Pin Assignment



● Pin Connection

PIN NO.	50	49	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
CONNECTION	6G	7G	8G	9G	10G	11G	12G	13G	14G	15G	16G	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	P15	P16	NP	NP	F1	F2

PIN NO.	59	58	57	56	55	54	53	52	51
CONNECTION	F2	F1	NP	NC	1G	2G	3G	4G	5G

NOTE 1) F1,F2 --- Filament
2) NP ------ No pin
3) NC ------ No connection
4) DL ------ Datum Line
5) 1G~17G --- Grid

● Anode Connection

	1G	2G	3G	4G	5G	6G	7G	8G	9G	10G	11G	12G	13G	14G	15G	16G	17G
P1	VOCAL PARTNER	STEREO	B1	B1	B1	B1	B1	B1	B1	B1	B1	B1	B1	B1	B1	S1	2a
P2	(VOCAL PARTNER)	MPX	B2	B2	B2	B2	B2	B2	B2	B2	B2	B2	B2	B2	B2	B16	2b
P3	ONE TOUCH KARAOKE	HIFI MPX	B3	B3	B3	B3	B3	B3	B3	B3	B3	B3	B3	B3	B3	B17	2c
P4	(ONE TOUCH KARAOKE)	DISCO	B4	B4	B4	B4	B4	B4	B4	B4	B4	B4	B4	B4	B4	B18	2d
P5	POP	(DISCO)	B5	B5	B5	B5	B5	B5	B5	B5	B5	B5	B5	B5	B5	B19	2e
P6	BALLAD	HALL	B6	B6	B6	B6	B6	B6	B6	B6	B6	B6	B6	B6	B6	B20	2f
P7	DOLBY PRO LOGIC	(HALL)	B7	B7	B7	B7	B7	B7	B7	B7	B7	B7	B7	B7	B7	B21	2g
P8	NORMAL	STADIUM	B8	B8	B8	B8	B8	B8	B8	B8	B8	B8	B8	B8	B8	B22	3b,3c
P9	PHANTOM	(STADIUM)	B9	B9	B9	B9	B9	B9	B9	B9	B9	B9	B9	B9	B9	B23	1a
P10	[DOLBY PRO LOGIC NORMAL PHANTOM]	STAGE	B10	B10	B10	B10	B10	B10	B10	B10	B10	B10	B10	B10	B10	B24	1b
P11	3ch LOGIC	(STAGE)	B11	B11	B11	B11	B11	B11	B11	B11	B11	B11	B11	B11	B11	B25	1c
P12	(3ch LOGIC)	-	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B26	1d
P13	MOVIE	-	B13	B13	B13	B13	B13	B13	B13	B13	B13	B13	B13	B13	B13	SFC LEVEL	1e
P14	(MOVIE)	-	B14	B14	B14	B14	B14	B14	B14	B14	B14	B14	B14	B14	B14	BASS SYN.LEVEL	1f
P15	-	-	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	DELAY TIME	1g
P16	-	-	60	-	150	-	400	-	1K	-	2.4K	-	6K	-	15K	-	mS

1.5 PARTS LIST FOR EXPLODED VIEWS

NOTES :

- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The △ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*

Part number differs between SP−J720K/AEIW, SP−J420/ADL, AEZIW, AB, GR−J320/ADL, AEZIW, AB and SP−J720K/ADL

Mark	No.	Symbol & Description	Part No.							
			SP−J720K		SP−J420			GR−J320		
			ADL	AEIW	ADL	AEZIW	AB	ADL	AEZIW	AB
	33	PRO-LOGIC assy	AWX1063	AWX1063	AWX1067	AWX1067	AWX1067	.....	.....	.....
	34	DSP assy	AWX1066	AWX1066	.....	.....	.....	.....	.....	.....
	35	MAIN assy	AWZ5215	AWZ5595	AWZ5216	AWZ5216	AWZ5216	AWZ5217	AWZ5217	AWZ5217
	36	FRONT assy	AWZ5218	AWZ5218	AWZ5219	AWZ5219	AWZ5219	AWZ5220	AWZ5220	AWZ5220
	38	MIC assy	AWZ5222	AWZ5222	AWZ5223	AWZ5223	AWZ5223	AWZ5223	AWZ5223	AWZ5223
	5	J5 Flexible cable	ADD1126	ADD1126	.....	.....	.....	.....	.....	.....
	1	Front panel (PLS)	AMB2197	AMB2197	AMB2199	AMB2199	AMB2199	AMB2198	AMB2198	AMB2198
	8	Rear panel (MTL)	ANC2134	ANC2133	ANC2140	ANC2139	ANC2138	ANC2137	ANC2136	ANC2135
NSP	12	Binder	AEC−219	AEC−219	.....	.....	.....	.....	.....	.....
NSP	13	PCB support	AEC1006	AEC1006	.....	.....	.....	.....	.....	.....
NSP	17	PCB mould	AMR2115	AMR2115	AMR2115	AMR2115	AMR2115	.....	.....	.....
	19	PCB mould	AMR2603	AMR2603	.....	.....	.....	.....	.....	.....
	22	Screw	BBZ30P140FMC	BBZ30P140FMC	BBZ30P140FMC	BBZ30P140FMC	BBZ30P140FMC	.....	.....	.....
	24	Knob sheet (PLS)	AAK2521	AAK2521	AAK2524	AAK2524	AAK2524	AAK2523	AAK2523	AAK2523
	26	Sub panel (PLS)	AMR2597	AMR2597	AMR2597	AMR2597	AMR2597	AMR2598	AMR2598	AMR2598
	30	Efect button A (PLS)	AAD2500	AAD2500	AAD2500	AAD2500	AAD2500	.....	.....	.....
	31	Efect button B (PLS)	AAD2501	AAD2501	.....	.....	.....	.....	.....	.....
	43	Ground plate	ANK1120	.....	ANK1120	.....	.....	ANK1120	.....	.....

■ FOR SP−J720K/ADL

Mark	No.	Description	Parts No.
	1	FRONT PANEL (PLS)	AMB2197
	2	FLEXIBLE CABLE (J1)	ADD1123
	3	FLEXIBLE CABLE (J2)	ADD1124
	4	FLEXIBLE CABLE (J3)	ADD1125
	5	FLEXIBLE CABLE (J5)	ADD1126
	6	CORD WITH PLUG (J4)	ADE1138
NSP	7	CHASSIS (MTL)	ANA1193
	8	REAR PANEL (MTL)	ANC2134
	9	RUBBER SHEET	AEB1247
	10	LEG ASSY (S)	AMR1937
	11	MIC PRESS CLASP	ANG1871
NSP	12	BINDER	AEC−219
NSP	13	PCB SUPPORT	AEC1006
NSP	14	PCB SUPPORT	AEC1216
NSP	15	PCB SPACER	AEC1371
	16	PCB SPACER	AEC1372
NSP	17	PCB MOULD	AMR2115
NSP	18	PCB MOULD	AMR1525
	19	PCB MOULD	AMR2603
	20	SCREW	ABA1018
	21	SCREW	BBZ30P060FZK
	22	SCREW	BBZ30P140FMC
	23	SCREW	BPZ26P080FMC
	24	KNOB SHEET (PLS)	AAK2521
	25	DISPLAY PANEL (PLS)	AAK2526
	26	SUB PANEL (PLS)	AMR2597
	27	NAME PLATE	PAM1407
	28	JOG KNOB (PLS)	AAB1371
	29	MIC KNOB (PLS)	AAB1339
	30	EFFECT BUTTON A (PLS)	AAD2500
	31	EFFECT BUTTON B (PLS)	AAD2501
	32	METAL BONNET (MTL)	ANE1379
	33	PRO-LOGIC ASSY	AWX1063
	34	DSP ASSY	AWX1066
	35	MAIN ASSY	AWZ5215
	36	FRONT ASSY	AWZ5218
	37	U-COM ASSY	AWZ5221
	38	MIC ASSY	AWZ5222
NSP	39	JOG ASSY	AWZ5224
NSP	40	TRANS ASSY	AWZ5225
	41	BINDER	AEP−215
	42	NYLON BINDER	AEC−093
NSP	43	GROUND PLATE	ANK1120

1.6 PCB PARTS LIST

NOTES :

- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).

560Ω → 56 × 10¹ → 561 ····· RD1/8PM [5][6][1] J
47kΩ → 47 × 10³ → 473 ····· RD1/4PS [4][7][3] J
0.5Ω → 0R5 ····· RN2H [0][R][5] K
1Ω → 010 ····· RS1P [0][1][0] K

Ex. 2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62kΩ → 562 × 10¹ → 5621 ····· RM1/4PC [5][6][2][1] F

● LIST OF WHOLE PCB ASSEMBLIES

Mark	Symbol & Description	Part No.								Remarks
		SP−J720K		SP−J420			GR−J320			
		ADL	AEIW	ADL	AEZIW	AB	ADL	AEZIW	AB	
	PROCESSOR assy	AWM1486	AWM4064	AWM1495	AWM1495	AWM1495	AWM1496	AWM1496	AWM1496	
	├ FRONT assy	AWZ5218	AWZ5218	AWZ5219	AWZ5219	AWZ5219	AWZ5220	AWZ5220	AWZ5220	
	├ U-COM assy	AWZ5221	AWZ5221	AWZ5221	AWZ5221	AWZ5221	AWZ5221	AWZ5221	AWZ5221	
	├ MIC assy	AWZ5222	AWZ5222	AWZ5223	AWZ5223	AWZ5223	AWZ5223	AWZ5223	AWZ5223	
NSP	├ JOG assy	AWZ5224	AWZ5224	AWZ5224	AWZ5224	AWZ5224	AWZ5224	AWZ5224	AWZ5224	
NSP	├ TRANS assy	AWZ5225	AWZ5225	AWZ5225	AWZ5225	AWZ5225	AWZ5225	AWZ5225	AWZ5225	
	└ MAIN assy	AWZ5215	AWZ5595	AWZ5216	AWZ5216	AWZ5216	AWZ5217	AWZ5217	AWZ5217	
	PRO-LOGIC assy	AWX1063	AWX1063	AWX1067	AWX1067	AWX1067	·····	·····	·····	
	DSP assy	AWX1066	AWX1066	·····	·····	·····	·····	·····	·····	

Mark	No.	Description	Parts No.
FRONT ASSY (AWZ5218)			
SEMICONDUCTORS			
	IC1251		M66311P
	IC951		UPC4570G2
	IC981		XRA4558F−P
	Q952		2SC2712
	D1271−D1274, D951, D952		1SS252
	D1253−D1255		AEL1100
	D1252, D1261−D1264, D1266		AEL1128
	D1251, D1256−D1260, D1265		AEL1144
COILS AND FILTERS			
	L951		ATX1008
SWITCHES AND RELAYS			
	S1251−S1262, S1264		ASG1034

Mark	No.	Description	Parts No.
CAPACITORS			
	C1253		CCSQSL101J50
	C1251		CCSQSL102J50
	C953		CCSQSL330J50
	C959, C981		CEAS010M50
	C954, C960, C983, C984		CEAS100M50
	C951, C958		CEAS101M16
	C982		CEJA010M50
	C952		CEJA100M50
	C1254		CKSQYB103K50
	C957		CKSQYF683Z50
RESISTORS			
	R951, R962		RD1/4PM181J
	R991, R992		RD1/8PM101J
	R1251−R1254		RD1/8PM102J
	VR981 (100k−*2)		ACS1054
	VR951, VR952 (20k−B)		ACS1101
	Other Resistors		RS1/10S□□□J

Mark	No.	Description	Parts No.
OTHERS			
	V1251	FL TUBE	AAV1187
	CN12522	1P SOCKET	AKP1086
	CN1251	30P SOCKET	AKP1095

FRONT ASSY (AWZ5219 and AWZ5220)

SEMICONDUCTORS			
	IC1251		M66311P
	IC951		UPC4570G2
	D1271−D1274		1SS252
	D1251, D1257−D1260, D1265		AEL1144
	D1256 (AWZ5219 only)		AEL1144
	D1254 (AWZ5220 only)		AEL1144
	D1253−D1255 (AWZ5219 only)		AEL1100
	D1261−D1263 (AWZ5219 only)		AEL1128
SWITCHES AND RELAYS			
	S1252, S1255, S1258−S1260, S1264		ASG1034
	S1251, S1253, S1257, S1261 (AWZ5219 only)		ASG1034
CAPACITORS			
	C1253		CCSQSL101J50
	C1251		CCSQSL102J50
	C953		CCSQSL330J50
	C954		CEAS100M50
	C951, C958		CEAS101M16
	C952		CEJA100M50
	C1254		CKSQYB103K50
RESISTORS			
	R951, R962		RD1/4PM181J
	R1251−R1254		RD1/8PM102J
	VR951 (20k−B)		ACS1101
	Other Resistors		RS1/10S□□□J
OTHERS			
	V1251	FL TUBE	AAV1187
	CN1252	21P SOCKET	AKP1086
	CN1251	30P SOCKET	AKP1095

U-COM ASSY (AWZ5221)

SEMICONDUCTORS			
	IC1201		PDC013A
	IC1202		XRA3826S
	Q1202		2SC2712
	Q1204		XDA124EK
	Q1201, Q1203		XDC143EK
	D1208		1SS252
	D1201, D1202		RD5.1ESB3
	D1205		RD6.2ESB
COILS AND FILTERS			
	L1201		ATX1008
	L1204		LAU010J
	L1205		LAU100J
	L1206		LAU120J
	L1203		LAU220K
CAPACITORS			
	C1209		CEAS010M50
	C1202		CEAS100M50
	C1218		CEAS220M50
	C1216		CEAS221M10
	C1208		CEAS2R2M50
	C1204, C1206, C1210, C1211		CEAS470M16
	C1221		CKSQYB102K50
	C1203, C1205, C1207, C1212−C1215		CKSQYB103K50
	C1219		CKSQYB103K50
	C1220		CKSQYB473K50
	C1201		CKSQYF104Z50
RESISTORS			
	R1201		RD1/2PMF221J
	R1202		RD1/2PMF271J
	R1208−R1211, R1214−R1219, R1226		RD1/8PM102J
	R1241, R1243−R1245, R1271, R1272		RD1/8PM102J
	R1275−R1277		RD1/8PM102J
	Other Resistors		RS1/10S□□□J
OTHERS			
	X1201 (12MHz)		ASS1062
	CN1203	21P SOCKET	AKP1084
	CN1201, CN1202	30P SOCKET	AKP1094

MIC ASSY (AWZ5222)

SEMICONDUCTORS			
	IC901		UPC4570G2
	Q921		2SC2712
CAPACITORS			
	C909, C910, C922		CEAS010M50
	C905, C906		CEAS4R7M50
	C913		CKCYX104M25
	C914		CKSQYB103K50
	C907, C908		CKSQYB182K50
	C901, C902		CKSQYB222K50
	C903, C904, C911, C912, C921		CKSQYF104Z50
RESISTORS			
	R915, R916		RD1 4PM181J
	R924		RD1/8PM103J
	VR921 (20k−B)		ACS1100
	Other Resistors		RS1/10S□□□J
OTHERS			
	PHONE JACK (MIC)		AKN1019
	JACK		AKN1023
	CN902	15P SOCKET	AKP1130

MIC ASSY (AWZ5223)

SEMICONDUCTORS			
	IC901		UPC4570G2
CAPACITORS			
	C909		CEAS010M50
	C905		CEAS4R7M50
	C913		CKCYX104M25
	C907		CKSQYB182K50
	C901		CKSQYB222K50
	C903, C911, C912		CKSQYF104Z50
RESISTORS			
	R915, R916		RD1 4PM181J
	Other Resistors		RS1/10S□□□J
OTHERS			
	PHONE JACK (MIC)		AKN1019

Mark	No.	Description	Parts No.
JOG ASSY (AWZ5224)			
SWITCHES AND RELAYS			
	S1301		ASX1015
TRANS ASSY (AWZ5225)			
SEMICONDUCTORS			
	D105		RB152
	D101, D102		RD16ESB
	D100		RD10ESB1
	D103, D104		S5688G
TRANSFORMER			
	T101		ATT1237
CAPACITORS			
	C105		CEAS220M50
	C106		CEAS471M50
RESISTORS			
⚠	R101		RS2LMF681J
	Other Resistors		RD1/8PM□□□J
MAIN ASSY (AWZ5215 and AWZ5595)			
SEMICONDUCTORS			
	IC751, IC752		LA3607
	IC753		LC7522
	IC1022		M66320FP
	IC1041, IC601, IC603, IC604		MC14053BF
	IC100		NJM7805AS
	IC101		NJM7812AS
	IC103		NJM7812FAS
	IC102		NJM7912A
	IC454		TC9154AP
	IC851		UPC4570G2
	IC1021		UPC78L05J
	IC451–IC453, IC602, IC801, IC891		XRA4558F–P
	Q452, Q453		2SA1162
	Q451		2SC2712
	Q851, Q852, Q871, Q872		2SC3327
	Q454		2SK246
	Q455, Q853, Q873		XDA124EK
	D452, D453		1SS226
	D454, D456		1SS252
	D106–D109, D873		HSS104–02
	D601, D602		RD5.1ESB
	D451, D455, D701, D702		RD5.1ESB1
COILS			
	L1021, L1022 (AWZ5215 only)		LAU330J
	L1023 (AWZ5215 only)		LAU220J
CAPACITORS			
	C755, C769		ACG1049
	C758, C770		ACG1050
	C2001–C2003		CCSQCH102J50
	C751, C752		CCSQCH680J50
	C1023, C602, C603		CCSQSL101J50
	C2006–C2008		CCSQSL221J50
	C508, C605, C606, C803, C804		CCSQSL470J50
	C853–C856		CCSQSL470J50
	C507		CCSQSL471J50
	C455, C456		CEAS100M50
	C457, C703, C704		CEAS101M10
	C467		CEAS220M16
	C801, C802		CEAS220M25
	C103, C104, C462		CEAS220M50
	C107		CEAS222M35
	C781–C784		CEAS2R2M50
	C805, C806, C851, C852		CEAS330M25
	C871, C872		CEAS330M25
	C108		CEAS332M35
	C1022, C701, C702		CEAS470M10
	C601, C604		CEAS470M16
	C458		CEAS470M25
	C756, C785		CEASR22M50
	C460, C463, C754		CEASR68M50
	C101, C102		CEHAQ220M50
	C768		CEJAR68M50
	C753, C767		CFTXA124J50
	C465 (For AWZ5215)		CFTXA394J50
	C465 (For AWZ5595)		CFTXA274J50
	C464 (For AWZ5215)		CFTXA683J50
	C464 (For AWZ5595)		CFTXA473J50
	C451 (For AWZ5215)		CFTXA823J50
	C451 (For AWZ5595)		CFTXA683J50
	C2010		CKCYF473Z50
	C2004, C2005, C459, C461, C759		CKSQYB103K50
	C773		CKSQYB103K50
	C762, C776		CKSQYB123K50
	C763, C777		CKSQYB152K50
	C466 (For AWZ5215)		CKSQYB273K50
	C466 (For AWZ5595)		CKSQYB183K50
	C452 (For AWZ5215)		CKSQYB272K50
	C452 (For AWZ5595)		CKSQYB222K50
	C766, C780		CKSQYB222K50
	C757, C771		CKSQYB223K50
	C760, C772		CKSQYB333K50
	C761, C775		CKSQYB392K50
	C1024, C470		CKSQYB472K50
	C2009, C705, C706		CKSQYB473K50
	C765, C779		CKSQYB561K50
	C764, C778		CKSQYB562K50
	C873, C874		CKSQYF104Z50
	C1021, C453, C454, C468, C469		CKSQYF473Z50
RESISTORS			
	R701, R702		RD1/2PM271J
	R869		RD1/8PM182J
	R1043		RD1/8PM393J
	R607, R618		RD1/8PM751J
	R102, R103		RFA1/4PS100J
	R773, R774, R780, R781		RS1/8S000J
	R1021		RS1PMF820J
	Other Resistors		RS1/10S□□□J
OTHERS			
	CN1002 30P SOCKET		AKP1094
	CN1023 6P SOCKET		AKP1096
	CN1042 8P SOCKET		AKP1097
	CN1021, CN1041 10P SOCKET		AKP1098
	CN1022 7P SOCKET		AKP1127
	CN1001 CONNECTOR (18P)		AKP1128
	CN1003 15P SOCKET		AKP1129
	HEAT SINK		ANH–575
	SCREW		BBZ30P080FZK

Mark	No.	Description	Parts No.
MAIN ASSY (AWZ5216)			
SEMICONDUCTORS			
	IC751, IC752		LA3607
	IC753		LC7522
	IC1041		MC14053BF
	IC100		NJM7805AS
	IC101		NJM7812AS
	IC103		NJM7812FAS
	IC102		NJM7912A
	IC454		TC9154AP
	IC851		UPC4570G2
	IC401–IC404, IC451–IC453		XRA4558F–P
	IC501, IC502, IC801, IC891		XRA4558F–P
	Q452, Q453		2SA1162
	Q451		2SC2712
	Q851, Q852, Q871, Q872		2SC3327
	Q454, Q501, Q502		2SK246
	Q455, Q503, Q504, Q853, Q873		XDA124EK
	D452, D453		1SS226
	D454, D456		1SS252
	D106–D109, D501, D502, D873		HSS104–02
	D451, D455, D701, D702		RD5.1ESB1
CAPACITORS			
	C755, C769		ACG1049
	C758, C770		ACG1050
	C2001–C2003		CCSQCH102J50
	C751, C752		CCSQCH680J50
	C413		CCSQSL101J50
	C2006–C2008		CCSQSL221J50
	C508, C803, C804, C853–C856		CCSQSL470J50
	C507		CCSQSL471J50
	C455, C456, C501, C502		CEAS100M50
	C457, C703, C704		CEAS101M10
	C467		CEAS220M16
	C801, C802		CEAS220M25
	C103, C104, C462		CEAS220M50
	C107		CEAS222M35
	C781–C784		CEAS2R2M50
	C805, C806, C851, C852		CEAS330M25
	C871, C872		CEAS330M25
	C108		CEAS332M35
	C701, C702		CEAS470M10
	C458		CEAS470M25
	C756, C785		CEASR22M50
	C403, C404		CEASR33M50
	C460, C463, C754		CEASR68M50
	C101, C102		CEHAQ220M50
	C768		CEJAR68M50
	C753, C767		CFTXA124J50
	C465		CFTXA274J50
	C464		CFTXA473J50
	C451		CFTXA683J50
	C2010		CKCYF473Z50
	C2004, C2005, C459, C461, C759		CKSQYB103K50
	C773		CKSQYB103K50
	C762, C776		CKSQYB123K50
	C763, C777		CKSQYB152K50
	C414–C416, C466		CKSQYB183K50
	C452, C766, C780		CKSQYB222K50
	C757, C771		CKSQYB223K50
	C405, C406		CKSQYB272K50
	C760, C772		CKSQYB333K50
	C761, C775		CKSQYB392K50
	C503, C504, C506		CKSQYB471K50
	C470		CKSQYB472K50
	C2009, C705, C706		CKSQYB473K50
	C407–C412, C765, C779		CKSQYB561K50
	C764, C778		CKSQYB562K50
	C505		CKSQYB681K50
	C873, C874		CKSQYF104Z50
	C453, C454, C468, C469		CKSQYF473Z50
	C401, C402		CKSQYF683Z50
RESISTORS			
	R701, R702		RD1/2PM271J
	R869		RD1/8PM182J
	R1043		RD1/8PM393J
	R102, R103		RFA1/4PS100J
	R773, R774, R780, R781		RS1/8S000J
	Other Resistors		RS1/10S□□□J
OTHERS			
	CN1002 30P SOCKET		AKP1094
	CN1042 8P SOCKET		AKP1097
	CN1041 10P SOCKET		AKP1098
	CN1001 CONNECTOR (18P)		AKP1128
	HEAT SINK		ANH–575
	SCREW		BBZ30P080FZK
	CN1004 CONNECTOR (4P)		KPE4
MAIN ASSY (AWZ5217)			
SEMICONDUCTORS			
	IC751, IC752		LA3607
	IC753		LC7522
	IC100		NJM7805AS
	IC101		NJM7812AS
	IC102		NJM7912A
	IC851		UPC4570G2
	IC501, IC801, IC891		XRA4558F–P
	Q851, Q852		2SC3327
	Q501, Q502		2SK246
	Q503, Q504, Q853		XDA124EK
	D106–D109, D501, D502		HSS104–02
	D701, D702		RD5.1ESB1
CAPACITORS			
	C755, C769		ACG1049
	C758, C770		ACG1050
	C2001–C2003		CCSQCH102J50
	C751, C752		CCSQCH680J50
	C2006–C2008		CCSQSL221J50
	C508, C803, C804 C853–C856		CCSQSL470J50
	C507		CCSQSL471J50
	C501, C502		CEAS100M50
	C703, C704		CEAS101M10
	C801, C802		CEAS220M25
	C103, C104		CEAS220M50
	C107		CEAS222M35
	C781–C784		CEAS2R2M50
	C805, C806, C851, C852		CEAS330M25
	C108		CEAS332M35

Mark	No.	Description	Parts No.
	C701, C702		CEAS470M10
	C756, C785		CEASR22M50
	C754		CEASR68M50
	C102		CEHAQ220M50
	C768		CEJAR68M50
	C753, C767		CFTXA124J50
	C2010		CKCYF473Z50
	C2004, C2005, C759, C773		CKSQYB103K50
	C762, C776		CKSQYB123K50
	C763, C777		CKSQYB152K50
	C766, C780		CKSQYB222K50
	C757, C771		CKSQYB223K50
	C760, C772		CKSQYB333K50
	C761, C775		CKSQYB392K50
	C503, C504, C506		CKSQYB471K50
	C2009, C705, C706		CKSQYB473K50
	C765, C779		CKSQYB561K50
	C764, C778		CKSQYB562K50
	C505		CKSQYB681K50
	C874		CKSQYF104Z50
RESISTORS			
	R701, R702		RD1/2PM271J
	R102, R103		RFA1/4PS100J
	R773, R774, R780, R781		RS1/8S000J
	Other Resistors		RS1/10S□□□J
OTHERS			
	CN1002	30P SOCKET	AKP1094
	CN1001	CONNECTOR (18P)	AKP1128
	HEAT SINK		ANH−575
	SCREW		BBZ30P080FZK
	CN1004	CONNECTOR (4P)	KPE4

PRO-LOGIC ASSY (AWZ1063)

Mark	No.	Description	Parts No.
SEMICONDUCTORS			
	IC1901		LA2780N
	IC1906		M66320FP
	IC1904, IC1905		NJM4558M−D
	Q1904, Q1905		2SC1740S
	Q1906, Q1907		RN2203
	D1901, D1903		RD6.2ESB
CAPACITORS			
	C1970		CCSQCH330J50
	C1906, C1922, C1934		CCSQCH681J50
	C1909, C1910, C1917, C1918		CEANL4R7M50
	C1903, C1904, C1926, C1927		CEAS100M50
	C1902		CEAS101M16
	C1930, C1931		CEAS2R2M50
	C1901		CEAS470M25
	C1911, C1916		CEASR15M50
	C1912, C1915		CEYA3R3M50
	C1905, C1925		CEYAR33M50
	C1933		CFTXA103J50
	C1907, C1908, C1920, C1923, C1924		CFTXA104J50
	C1935		CFTXA104J50
	C1932		CFTXA153J50
	C1913, C1914		CFTXA154J50
	C1921		CFTXA334J50
	C1919		CFTXA473J50
	C1972		CKSQYB472K50
RESISTORS			
	Other Resistors		RS1/10S□□□J

Mark	No.	Description	Parts No.
OTHERS			
	CN1903	8P PLUG	AKM1084
	CN1904	10P PLUG	AKM1085

PRO-LOGIC ASSY (AWX1067)

Mark	No.	Description	Parts No.
SEMICONDUCTORS			
	IC1901		LA2780N
	IC1903		LM3364K−15
	IC1902		LV1001M−A
	IC1906		M66320FP
	IC1904, IC1905		NJM4558M−D
	Q1904, Q1905		2SC1740S
	Q1903		2SD438
	Q1906, Q1907		RN2203
	D1901, D1903		RD6.2ESB
CAPACITORS			
	C1938, C1964		CCSCH102J50
	C1940, C1962		CCSQCH151J50
	C1970		CCSQCH330J50
	C1953		CCSQCH471J50
	C1906, C1922, C1934, C1959		CCSQCH681J50
	C1909, C1910, C1917, C1918		CEANL4R7M50
	C1950		CEANP100M35
	C1956		CEANPR33M50
	C1951		CEAS010M50
	C1903, C1904, C1926, C1927, C1952		CEAS100M50
	C1957, C1958, C1960		CEAS100M50
	C1902		CEAS101M16
	C1968		CEAS221M10
	C1941−C1943		CEAS221M16
	C1930, C1931		CEAS2R2M50
	C1901		CEAS470M25
	C1936		CEAS471M16
	C1965		CEAS4R7M50
	C1911, C1916		CEASR15M50
	C1945		CEASR22M50
	C1937		CEJA4R7M50
	C1912, C1915		CEYA3R3M50
	C1905, C1925		CEYAR33M50
	C1933		CFTXA103J50
	C1907, C1908, C1920, C1923, C1924		CFTXA104J50
	C1935		CFTXA104J50
	C1932		CFTXA153J50
	C1913, C1914, C1961		CFTXA154J50
	C1939, C1963		CFTXA223J50
	C1949		CFTXA333J50
	C1921		CFTXA334J50
	C1919		CFTXA473J50
	C1946		CFTXA683J50
	C1967		CKSQYB103K50
	C1972		CKSQYB472K50
	C1969		CKSQYB562K50
	C1966		CKSQYF104Z50
	C1947		CQMA392J50
	C1948		CQMA472J50
	C1954		CQMA562J50
	C1955		CQMA682J50
RESISTORS			
	VR1901		VRTB6VS473
	Other Resistors		RS1/10S□□□J

Mark	No.	Description	Parts No.
OTHERS			
	CN1903	8P PLUG	AKM1084
	CN1904	10P PLUG	AKM1085
	X1901	(8.00MHz)	ASS1015
DSP ASSY (AWX1066)			
SEMICONDUCTORS			
	IC216		LA2730
	IC213		LH5P832D−10T
	IC214		M5238PF
	IC207, IC208		MC14053BCP
	IC201−IC205		NJM4558DXP
	IC209, IC210, IC215		NJM4558LD
	IC212		PDQ001A
	IC206		UPC4570C
	D201−D206		HSS104−02
	D291, D292		RD5.1ESB1
COILS AND FILTERS			
	X201	(11.2MHz)	ASS1031
	F201−F203		ATF1011
CAPACITORS			
	C253−C255, C268, C270, C272		CCSQCH101J50
	C274−C279, C281, C283		CCSQCH101J50
	C304, C305		CCSQCH101J50
	C256		CCSQCH102J50
	C225, C226		CCSQCH181J50
	C209, C210, C246		CCSQCH221J50
	C257, C258		CCSQCH390J50
	C205, C206		CCSQCH391J50
	C244		CCSQCH561J50
	C229, C230		CCSQCH680J50
	C213, C214		CCSQSL470J50
	C361		CEAS010M50
	C306, C307, C357, C367−C369		CEAS100M50
	C263, C265, C267, C364		CEAS101M10
	C235, C236, C250, C251		CEAS101M16
	C363		CEAS220M50
	C302		CEAS2R2M50
	C312, C313		CEAS470M16
	C358		CEAS470M25
	C215, C216, C219, C220		CEAS4R7M50
	C231, C232, C247		CEAS4R7M50
	C359		CEASR33M50
	C223, C224, C227, C228		CKSQYB103K50
	C291, C292		CKSQYB103K50
	C356		CKSQYB122K50
	C245		CKSQYB123K50
	C211, C212		CKSQYB153K50
	C354, C370		CKSQYB273K50
	C362		CKSQYB333K50
	C201, C202, C221, C222		CKSQYB392K50
	C241, C296, C297, C365		CKSQYB472K50
	C217, C218, C233, C234		CKSQYB473K50
	C248, C249, C262, C264, C266		CKSQYB473K50
	C351, C352		CKSQYB473K50
	C207, C208, C355		CKSQYB562K50
	C243		CKSQYB681K50
	C203, C204, C371		CKSQYB682K50
	C242, C366		CKSQYB822K50
	C303, C308, C360		CKSQYF104Z50
	C259−C261		CQPA332G100

Mark	No.	Description	Parts No.
RESISTORS			
	R310		RD1 8PM101J
	R351, R364		RD1/8PM102J
	R362		RD1 8PM123J
	R245		RD1 8PM153J
	R291		RD1/8PM162J
	R355		RD1/8PM181J
	VR201		VRTB6VS103
	Other Resistors		RS1/10S□□□J
OTHERS			
	CN5	6P PLUG	AKM1083
	CN4	10P PLUG	AKM1085
	CN3	7P PLUG	AKM1109

PIONEER®
The Art of Entertainment

Service Manual

ORDER NO.
RRZ1050

SOUND FIELD PROCESSOR
SP-J720K
SP-J420
SOUND IMAGE CONTROLLER
GR-J320

CHAPTER 2

2.1 EXPLODED VIEWS 2–3
2.2 SCHEMATIC AND PCB CONNECTION DIAGRAMS 2–5

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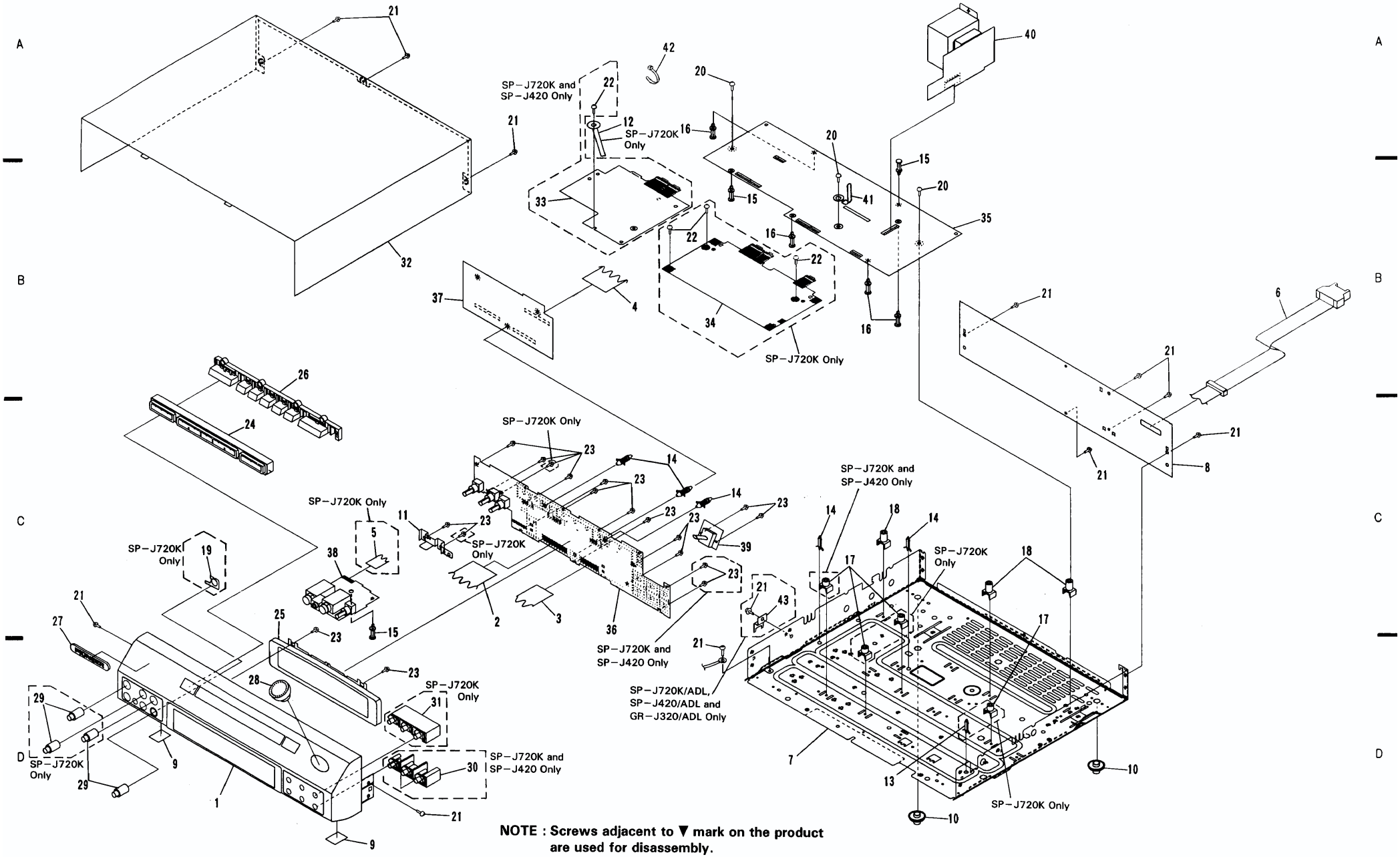
2.1 EXPLODED VIEWS



NOTE : Screws adjacent to ▼ mark on the product are used for disassembly.

2.2 SCHEMATIC AND PCB CONNECTION DIAGRAMS

1. OVERALL SCHEMATIC DIAGRAM

NOTE FOR SCHEMATIC DIAGRAMS (Type 2A)

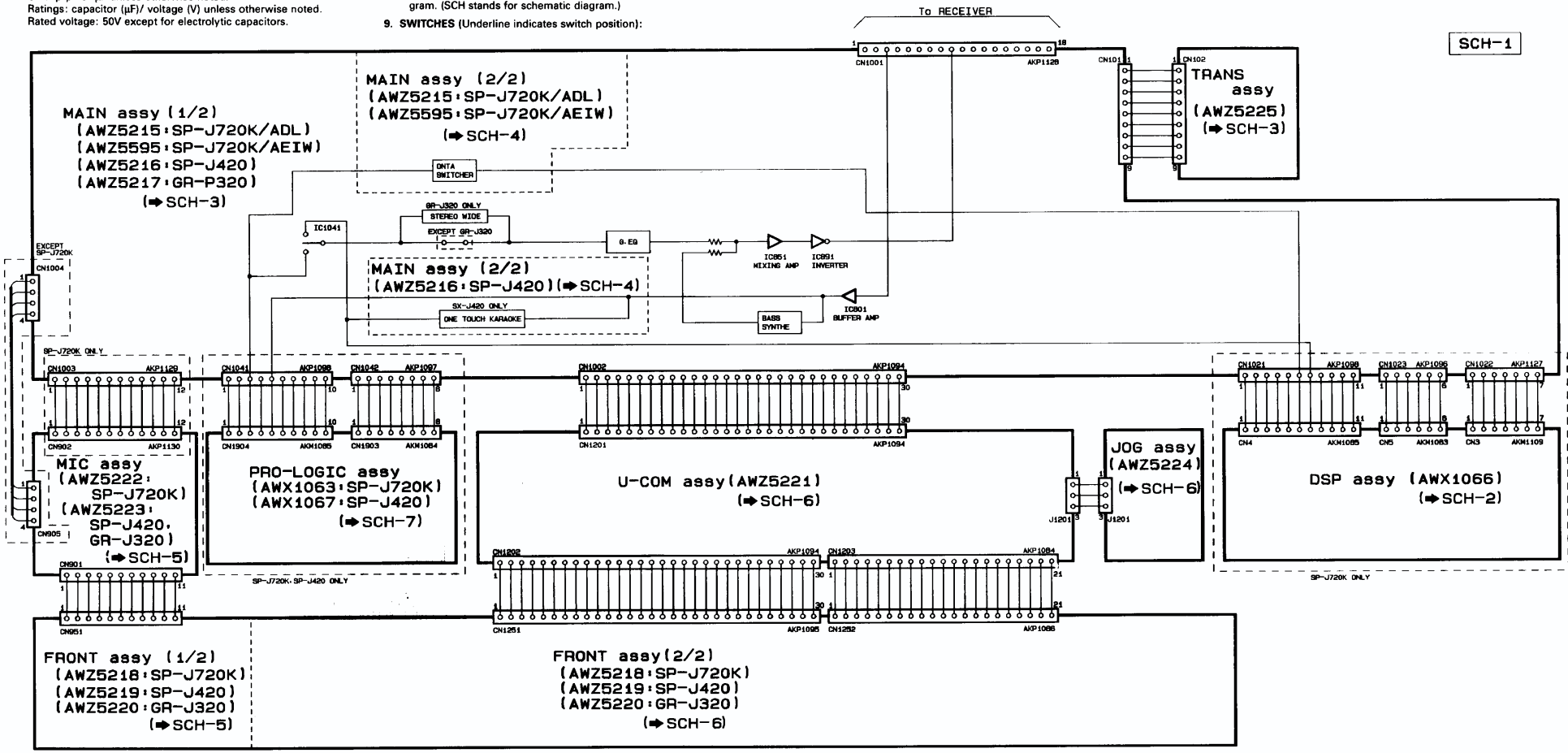
1. **When ordering service parts, be sure to refer to "PARTS LIST of EXPLODED VIEWS" or "PCB PARTS LIST".**
2. **Since these are basic circuits, some parts of them or the values of some components may be changed for improvement.**
3. **RESISTORS:**
   Unit: k:kΩ, M:MΩ, or Ω unless otherwise noted.
   Rated power: 1/4W, 1/6W, 1/8W, 1/10W unless otherwise noted.
   Tolerance: (F): ±1%, (G): ±2%, (K): ±10%, (M): ±20% or ±5% unless otherwise noted.
4. **CAPACITORS:**
   Unit: p:pF or μF unless otherwise noted.
   Ratings: capacitor (μF)/ voltage (V) unless otherwise noted.
   Rated voltage: 50V except for electrolytic capacitors.
5. **COILS:**
   Unit: m:mH or μH unless otherwise noted.
6. **VOLTAGE AND CURRENT:**
   ⏍ or ← V :
   DC voltage (V) at no input signal unless otherwise noted.
   ⇦ mA or ← mA :
   DC current at no input signal unless otherwise noted.
7. **OTHERS:**
   - ⊘ or ⊘ : Adjusting point.
   - : Measurement point.
   - The ⚠ mark found on some component parts indicates the importance of the safety factor of the parts. Therefore, when replacing, be sure to use parts of identical designation.
8. **SCH-□ ON THE SCHEMATIC DIAGRAM:**
   - SCH-□ indicates the drawing number of the schematic diagram. (SCH stands for schematic diagram.)
9. **SWITCHES** (Underline indicates switch position):

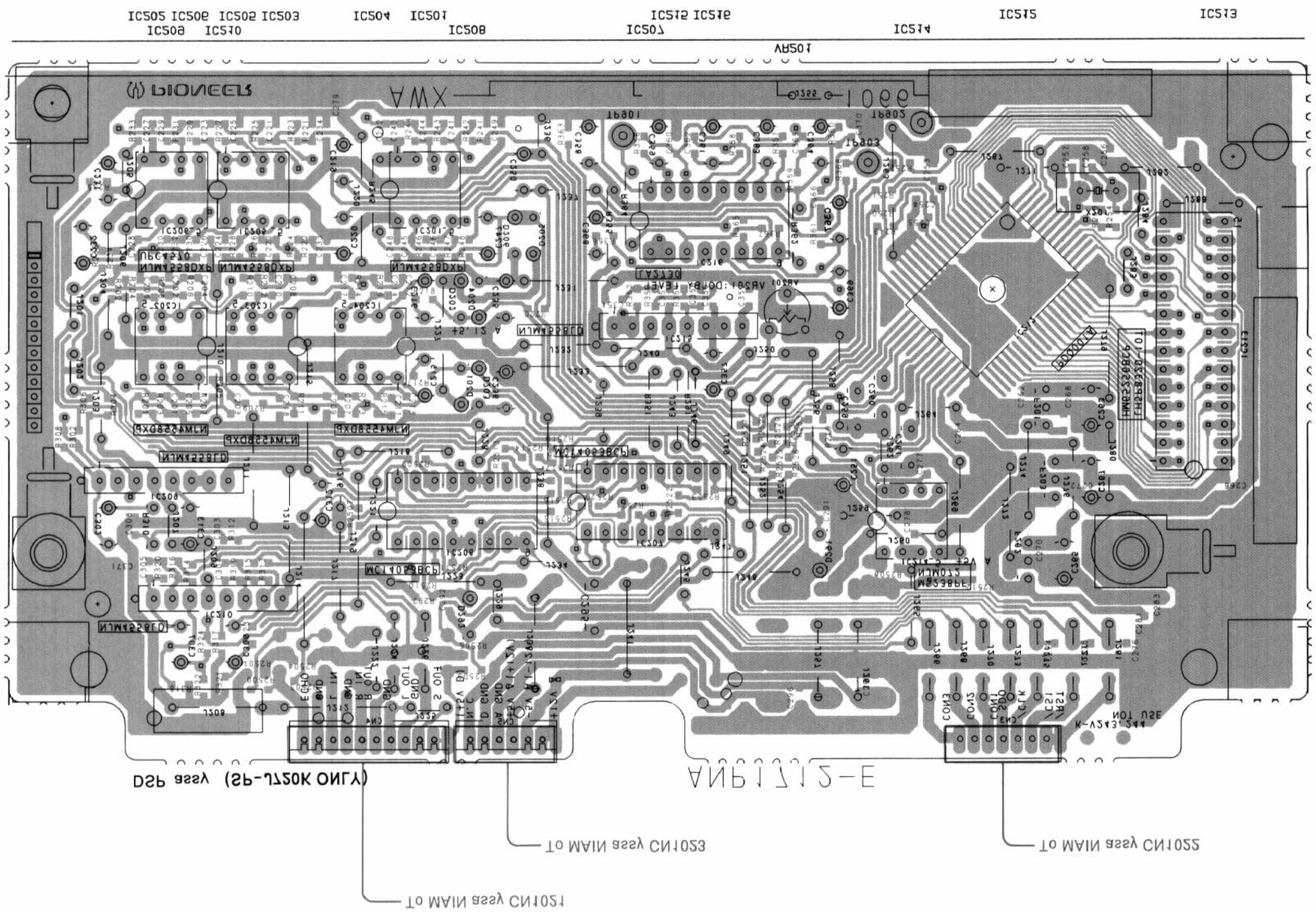
FRONT assy (FOR SP-J720K)
- S1251 KEY CONTROL
- S1252 BASS SYNTHE LEVEL
- S1253 KARAOKE ECHO TONE
- S1254 EFFECT SELECTOR
- S1255 SFC LEVEL/DELAY LEVEL
- S1256 BASS ON/OFF
- S1257 KARAOKE MPX
- S1258 GEQ CONTROL ➡
- S1259 GEQ CONTROL ⬅
- S1260 SET
- S1261 KARAOKE MODE (VOCAL)
- S1262 GEQ FLAT
- S1264 SCENE SELECTOR

FRONT assy (FOR SP-J420)
- S1251 DELAY
- S1252 BASS SYNTHE LEVEL
- S1254 EFFECT SELECTOR
- S1255 SFC LEVEL
- S1256 BASS ON/OFF
- S1258 GEQ CONTROL ➡
- S1259 GEQ CONTROL ⬅
- S1260 SET
- S1262 GEQ FLAT
- S1264 SCENE SELECTOR

FRONT assy (FOR GR-J320)
- S1252 GEQ FLAT
- S1255 SFC LEVEL
- S1258 GEQ CONTROL ➡
- S1259 GEQ CONTROL ⬅
- S1260 SET
- S1264 EFFECT SELECTOR

JOG assy
- S1301 SOUND JOG



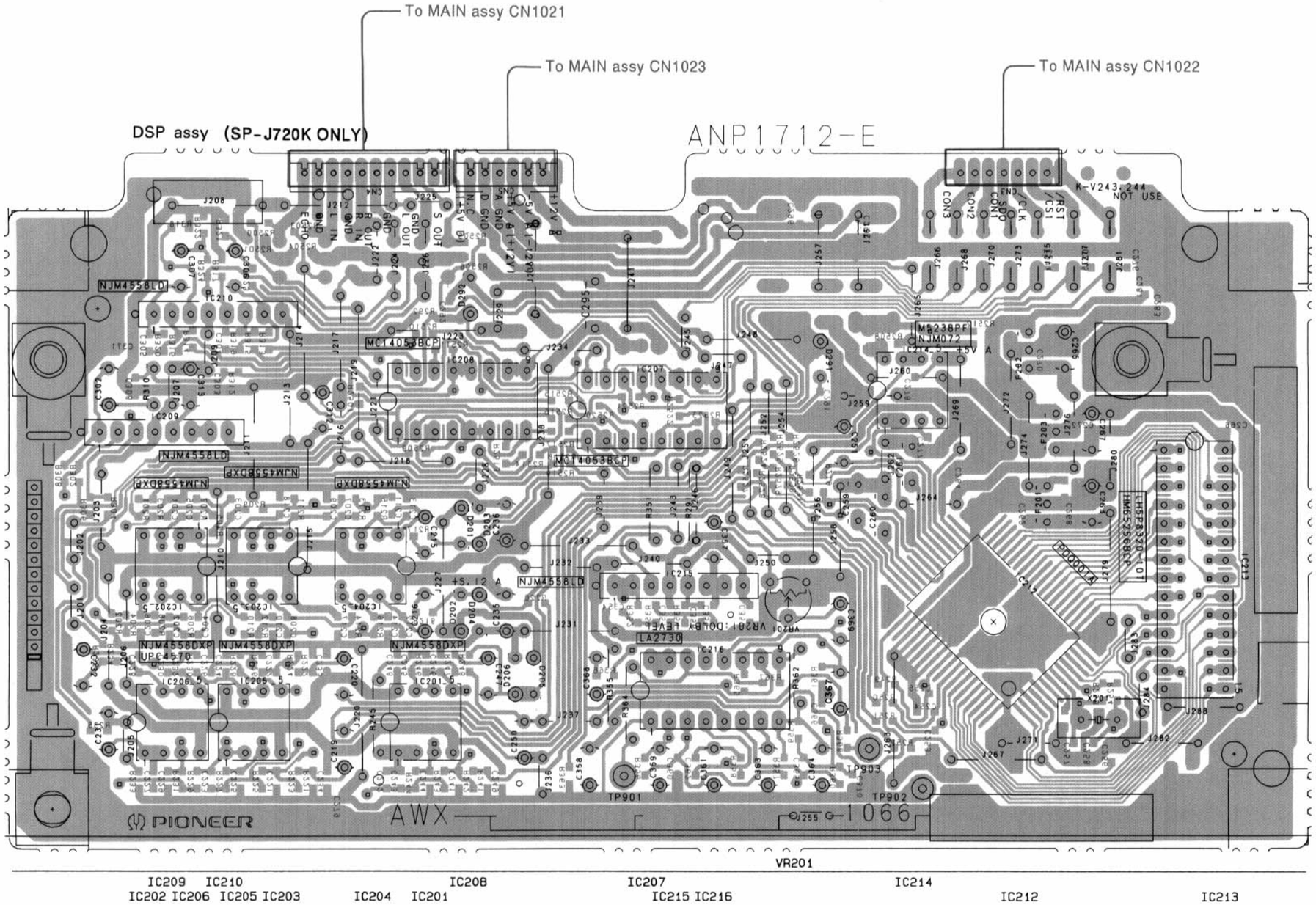

DSP assy (SP-MS500 ONLY)
To MAIN assy CN1057
To MAIN assy CN1053
To MAIN assy CN1055
● This diagram is viewed from the foil side.

SP-MS500, SP-MA50, CR-MS50

5. DSP ASSY

2. DSP ASSY

• This diagram is viewed from the mounted parts side.



NOTE FOR PCB DIAGRAMS:

1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

Symbol in PCB Diagrams	Symbol in Schematic Diagrams	Part Name
Q504 (E, B, C) Q504	Q504 Q504	Transistor
D203 D203	D203	Diode
C513 C513	C513	Capacitor (Polarized)

3. The transistor terminal marked with E or ⊏ shows the emitter.
4. The diode terminal marked with ◎ or ⊂ shows cathode side.
5. The capacitor terminal marked with ◎ or ⊏ shows negative terminal.

SCH – 2

SP-J720K ONLY

DSP assy (AWX1066)

	SW CON1	SW CON2	SW CON3
HIF	H	L	H
MOVIE	H	H	H
KARAOKE	H	H	L
DOLBY	L	L	L

SIGNAL ROUTE
: AUDIO SCENE (EFFECT ON)

ECHO IN

IC201–IC208 : ANTI ALIAS FILTER

L IN

R IN

IC212 : DSP

IC213 : RAM

IC209 : L-R

IC210 : MIX AMP

IC215 : 7kHz LPF

DOLBY TP

DECODER OUT

VR201 : DOLBY PRO-LOGIC ADJ.

IC216 : DOLBY-B DECODER

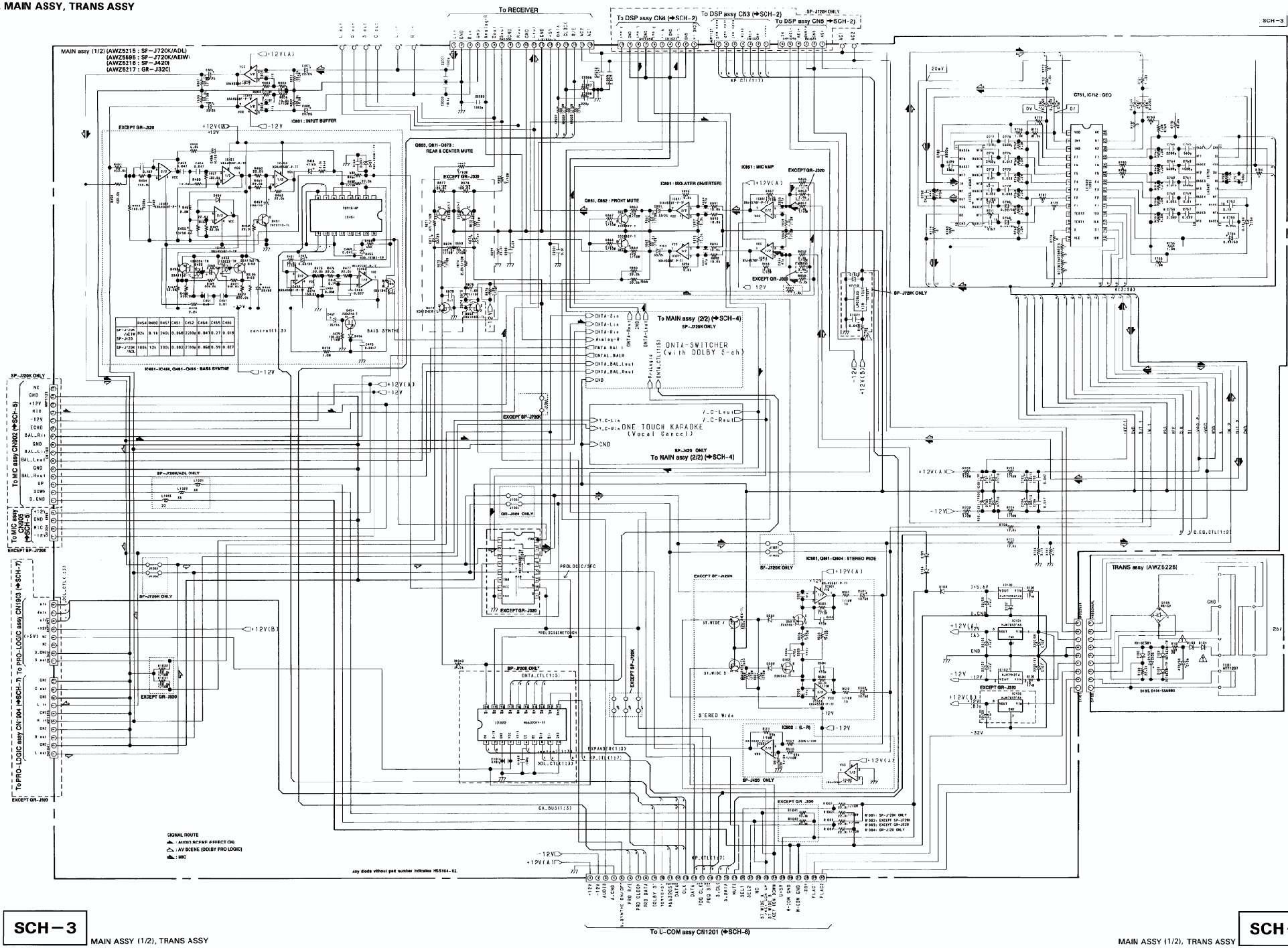
Any diode without part number indicates HSS104-02.

To MAIN assy (1/2) CN1022 (➔SCH-3)

To MAIN assy (1/2) CN1021 (➔SCH-3)

To MAIN assy (1/2) CN1023 (➔SCH-3)

3. MAIN ASSY, TRANS ASSY

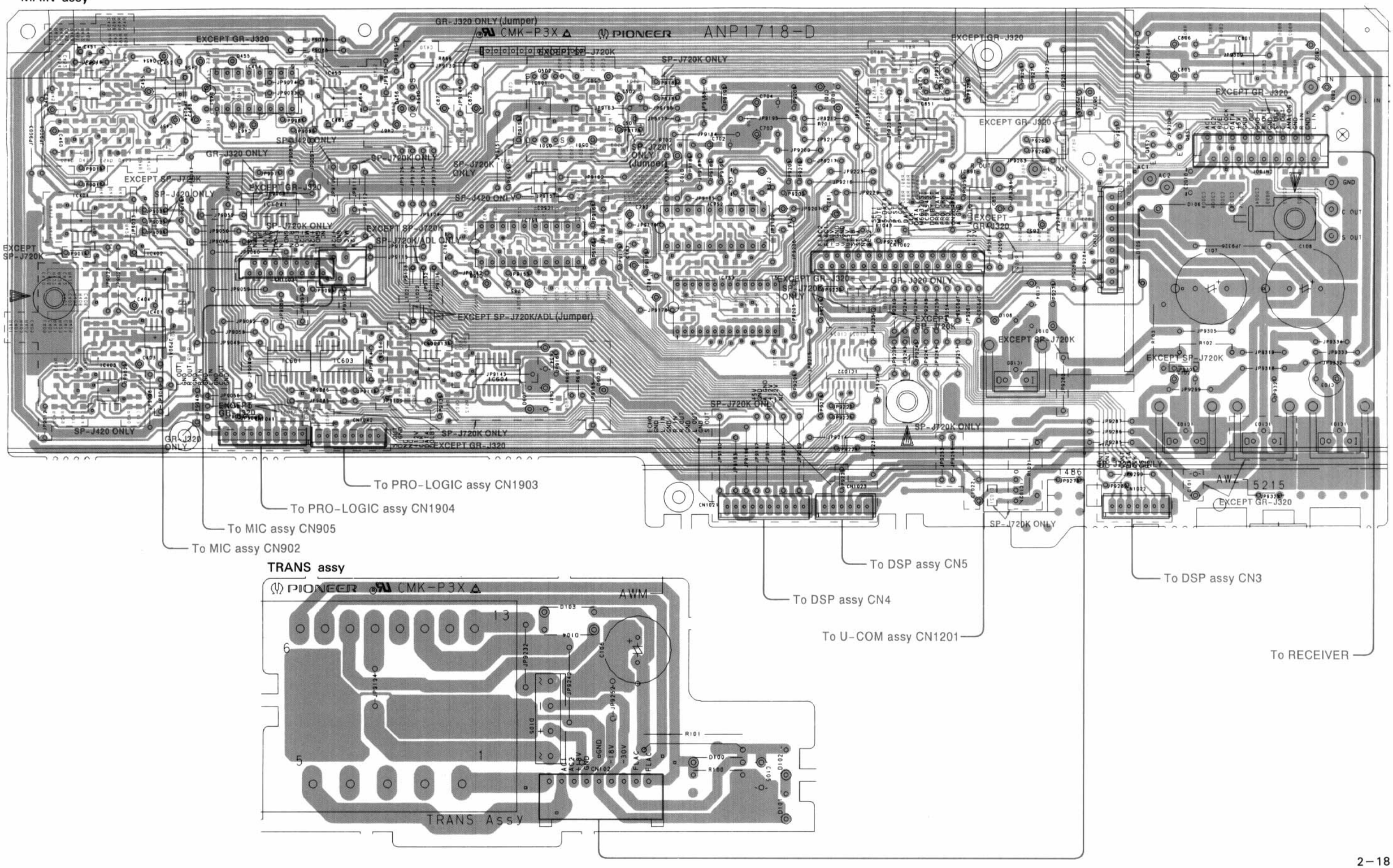


PCB-2

- This diagram is viewed from the mounted parts side.

Q452 IC451 Q453 IC452 Q451 IC454 IC453 Q454 Q455 Q502 IC501 Q501 Q503 Q504 IC851 Q871 Q872 Q852 Q851 IC801
IC404 IC402 IC1041 IC751 IC502 IC752 IC753 IC891 Q873 Q853
IC403 IC401 IC601 IC603 IC602 IC604 IC1022 IC100 IC102 IC103 IC101

MAIN assy



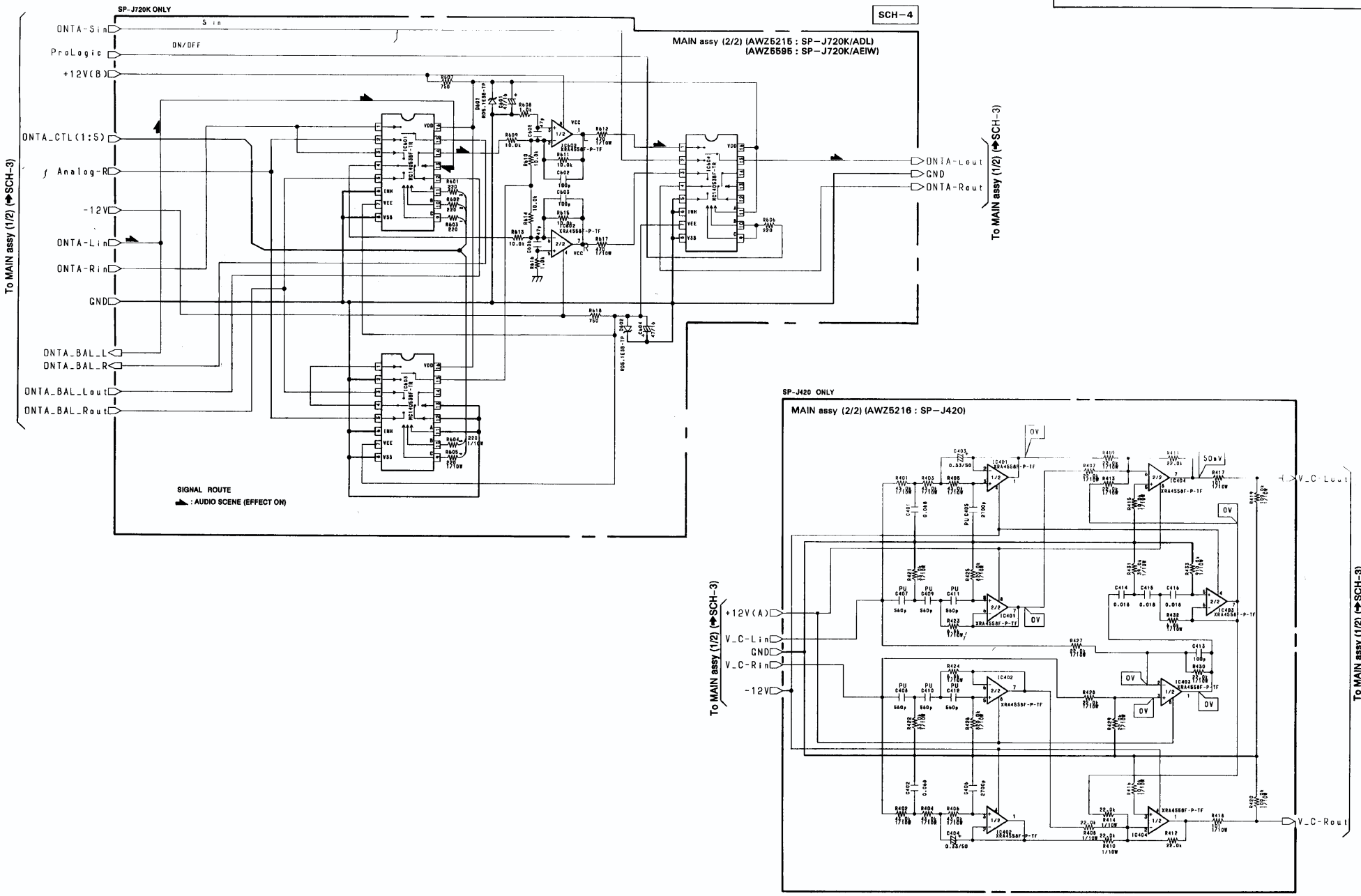
TRANS assy

GR-1350, GR-1450, GR-1550

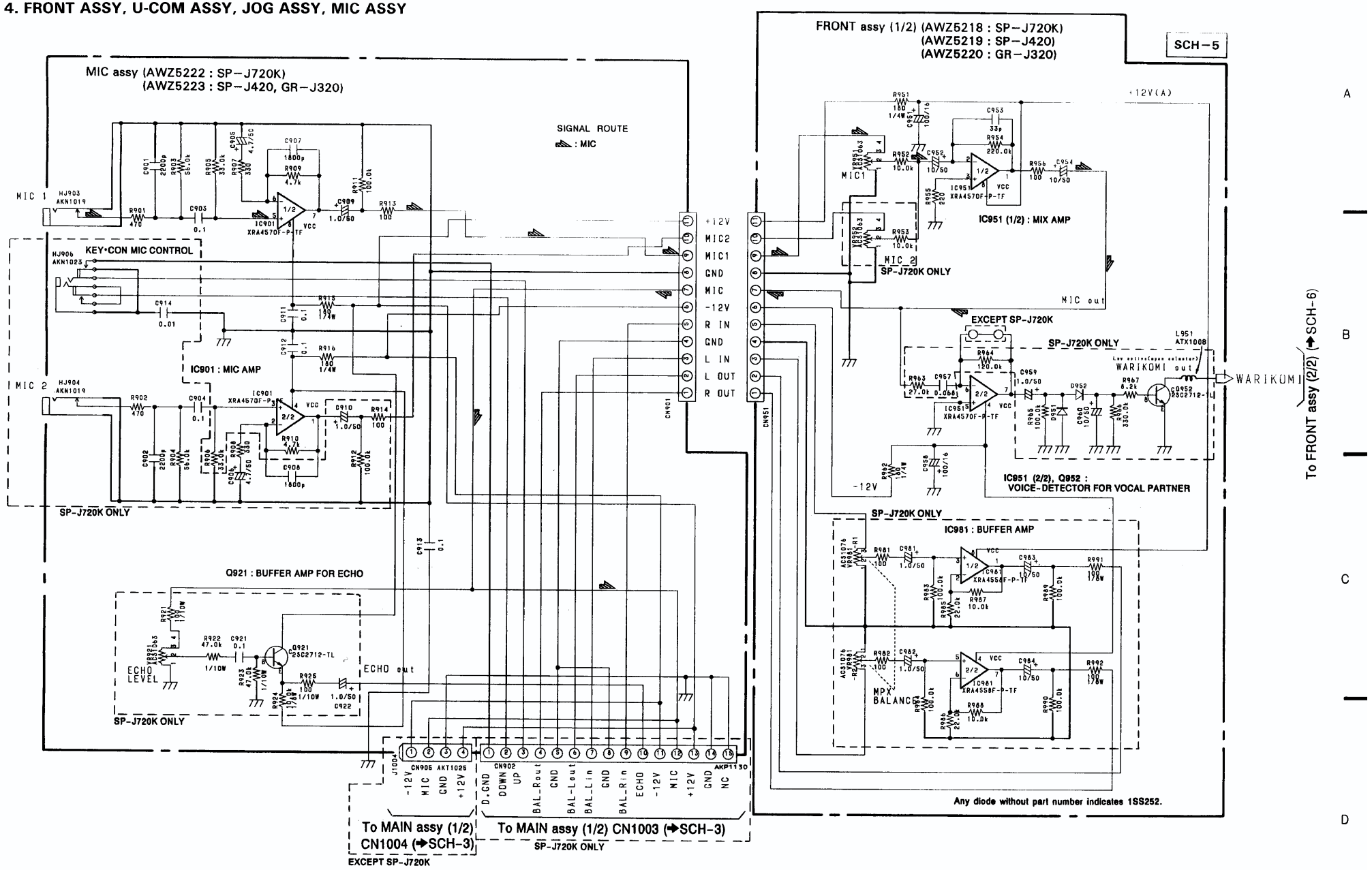
MAIN assy

TRANS assy

● This diagram is viewed from the foil side.


SP-J720K ONLY
SCH-4
MAIN assy (2/2) (AWZ5215 : SP-J720K/ADL)
(AWZ5595 : SP-J720K/AEIW)
ONTA-Sin
ProLogic
+12V(B)
ONTA_CTL(1:5)
Analog-R
-12V
ONTA-Lin
ONTA-Rin
GND
ONTA_BAL_L
ONTA_BAL_R
ONTA_BAL_Lout
ONTA_BAL_Rout
To MAIN assy (1/2) (➡SCH-3)
ONTA-Lout
GND
ONTA-Rout
To MAIN assy (1/2) (➡SCH-3)
SIGNAL ROUTE
: AUDIO SCENE (EFFECT ON)
SP-J420 ONLY
MAIN assy (2/2) (AWZ5216 : SP-J420)
+12V(A)
V_C-Lin
GND
V_C-Rin
-12V
To MAIN assy (1/2) (➡SCH-3)
V_C-Lout
V_C-Rout
To MAIN assy (1/2) (➡SCH-3)

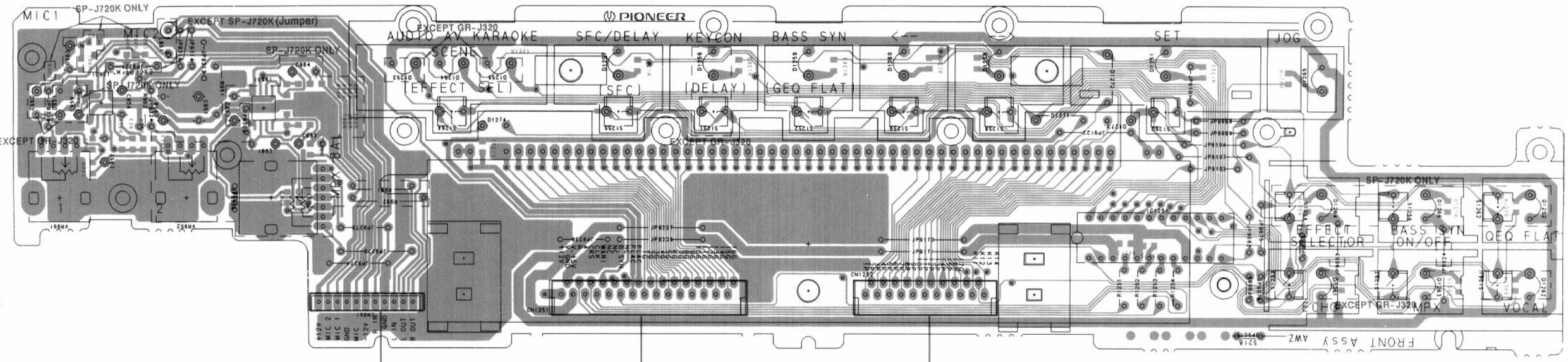
4. FRONT ASSY, U-COM ASSY, JOG ASSY, MIC ASSY



PCB－3

• This diagram is viewed from the mounted parts side.

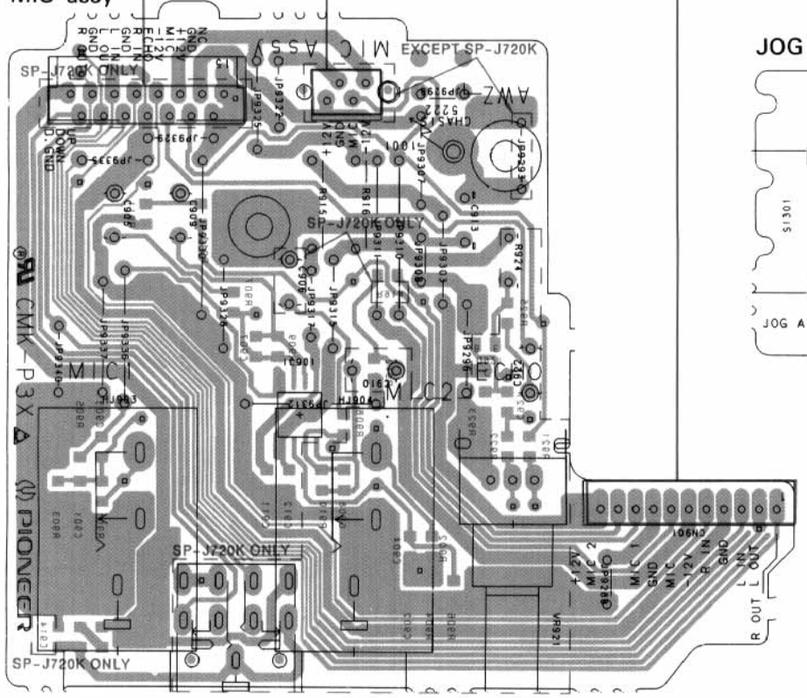
FRONT assy



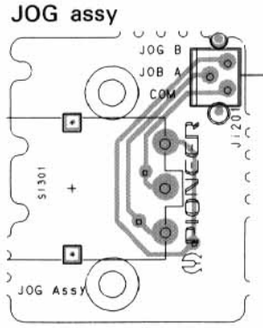
To MAIN assy CN1003

To MAIN assy CN1004

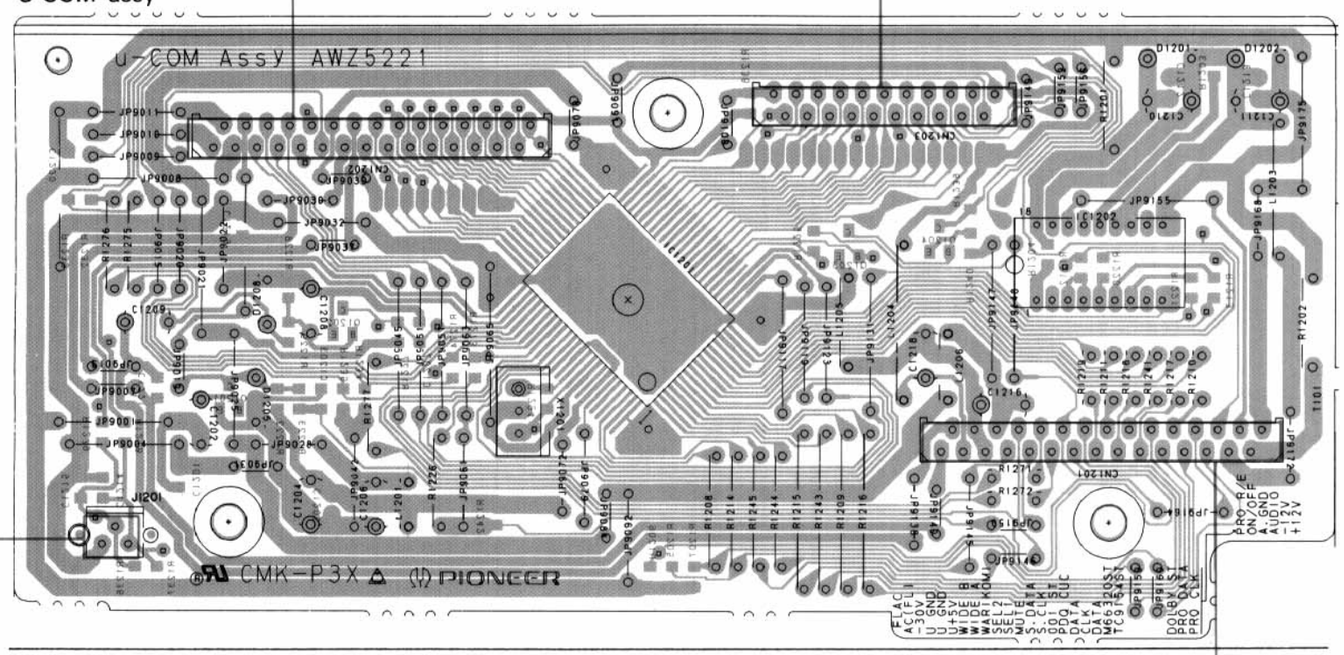
MIC assy



JOG assy

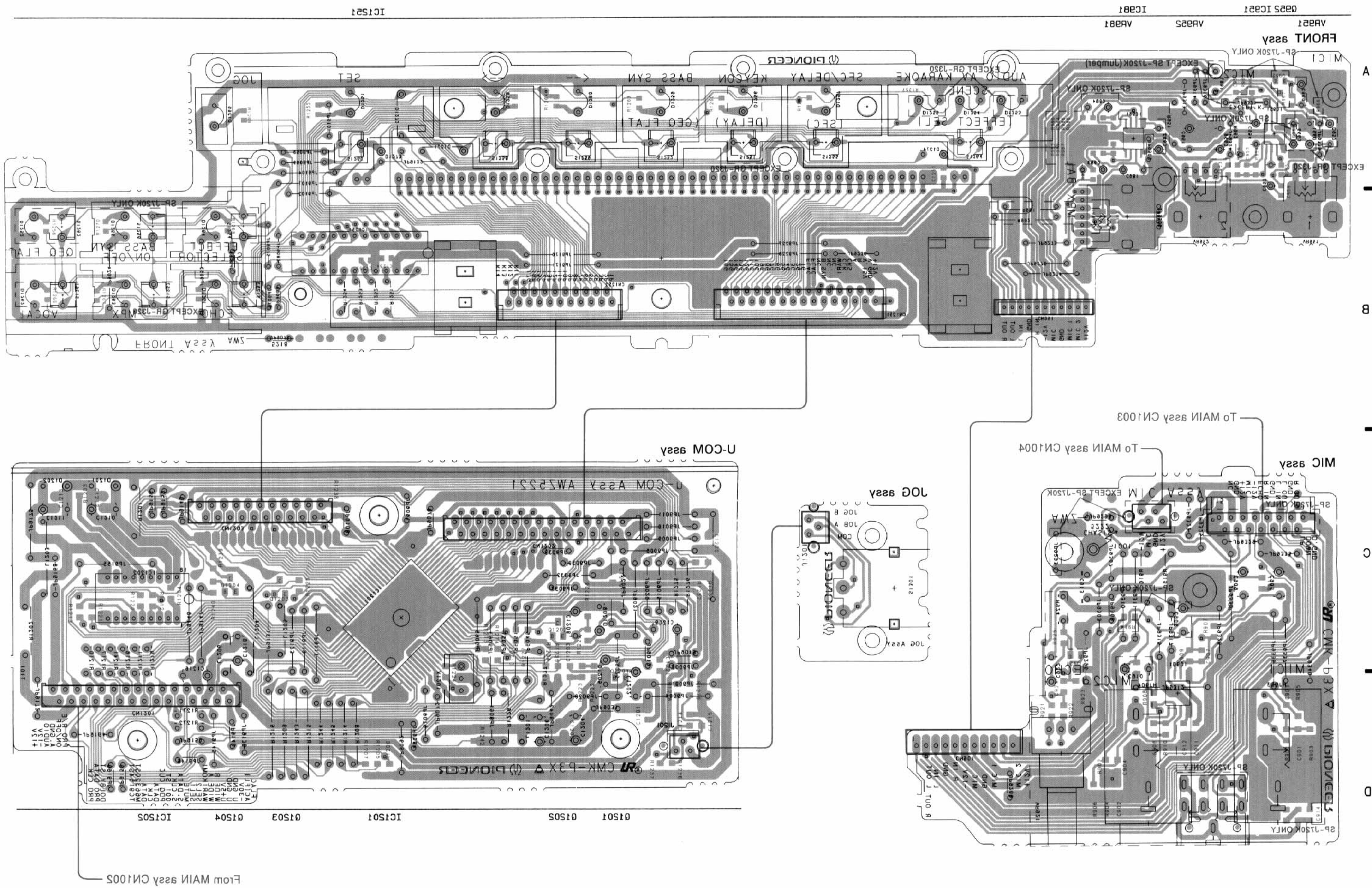


U-COM assy

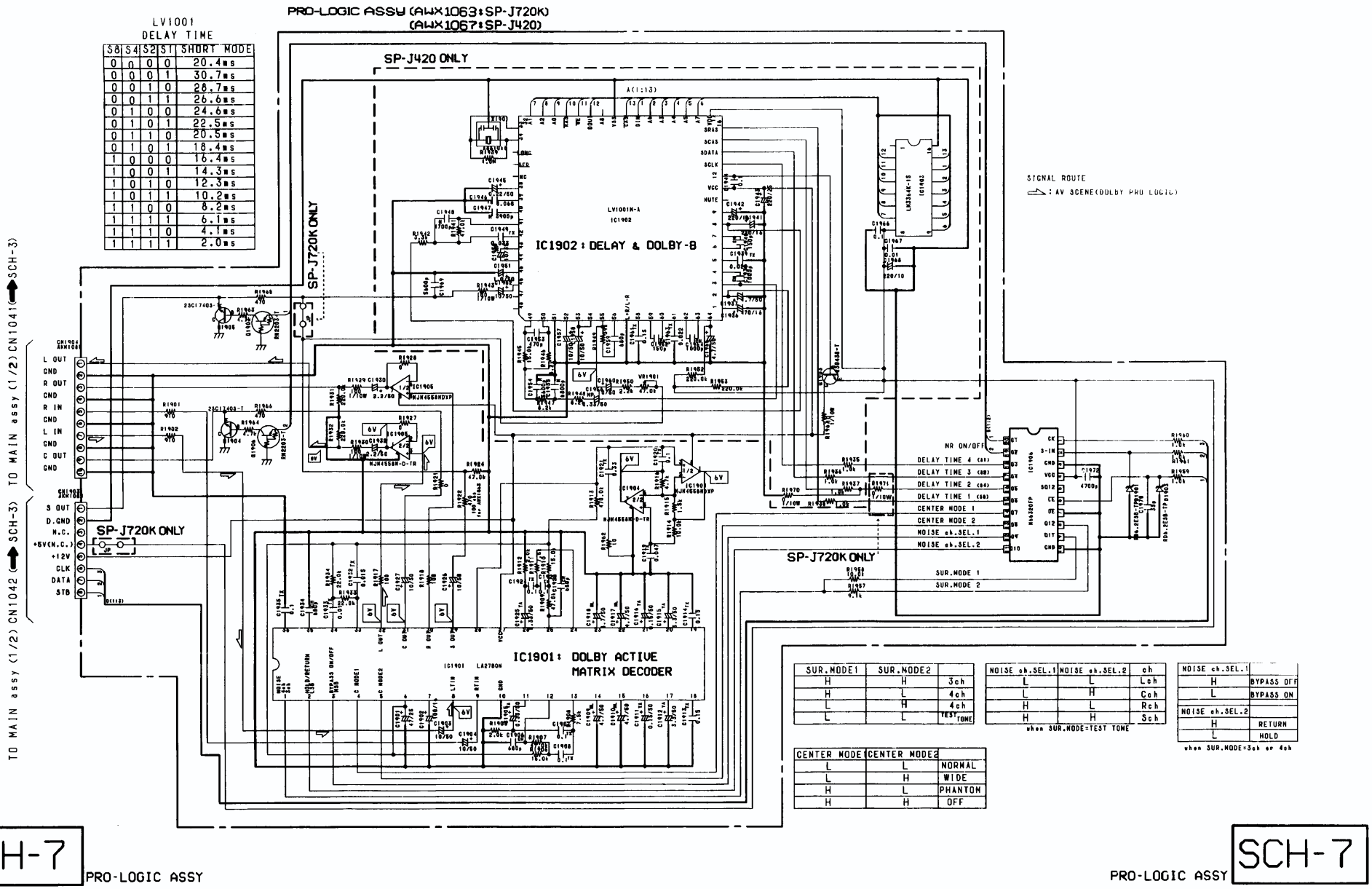


From MAIN assy CN1002

- This diagram is viewed from the foil side.



5. PRO-LOGIC ASSY



LV1001
DELAY TIME

S8	S4	S2	S1	SHORT MODE
0	0	0	0	20.4ms
0	0	0	1	30.7ms
0	0	1	0	28.7ms
0	0	1	1	26.6ms
0	1	0	0	24.6ms
0	1	0	1	22.5ms
0	1	1	0	20.5ms
0	1	1	1	18.4ms
1	0	0	0	16.4ms
1	0	0	1	14.3ms
1	0	1	0	12.3ms
1	0	1	1	10.2ms
1	1	0	0	8.2ms
1	1	1	1	6.1ms
1	1	1	0	4.1ms
1	1	1	1	2.0ms

SUR.MODE1	SUR.MODE2	
H	H	3ch
H	L	4ch
L	H	4ch
L	L	TEST TONE

NOISE ch.SEL.1	NOISE ch.SEL.2	ch
L	L	Lch
L	H	Cch
H	L	Rch
H	H	Sch

when SUR.MODE=TEST TONE

NOISE ch.SEL.1	
H	BYPASS OFF
L	BYPASS ON

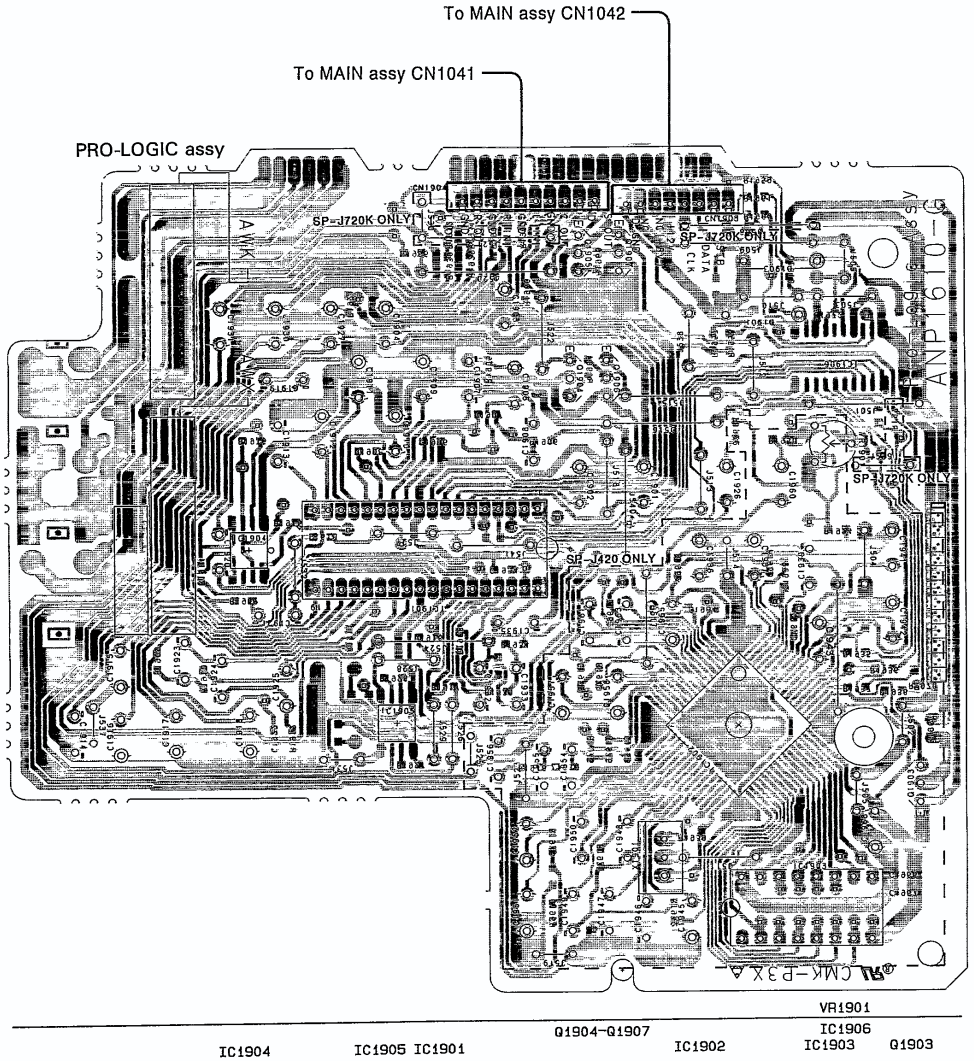
NOISE ch.SEL.2	
H	RETURN
L	HOLD

when SUR.MODE=3ch or 4ch

CENTER MODE1	CENTER MODE2	
L	L	NORMAL
L	H	WIDE
H	L	PHANTOM
H	H	OFF

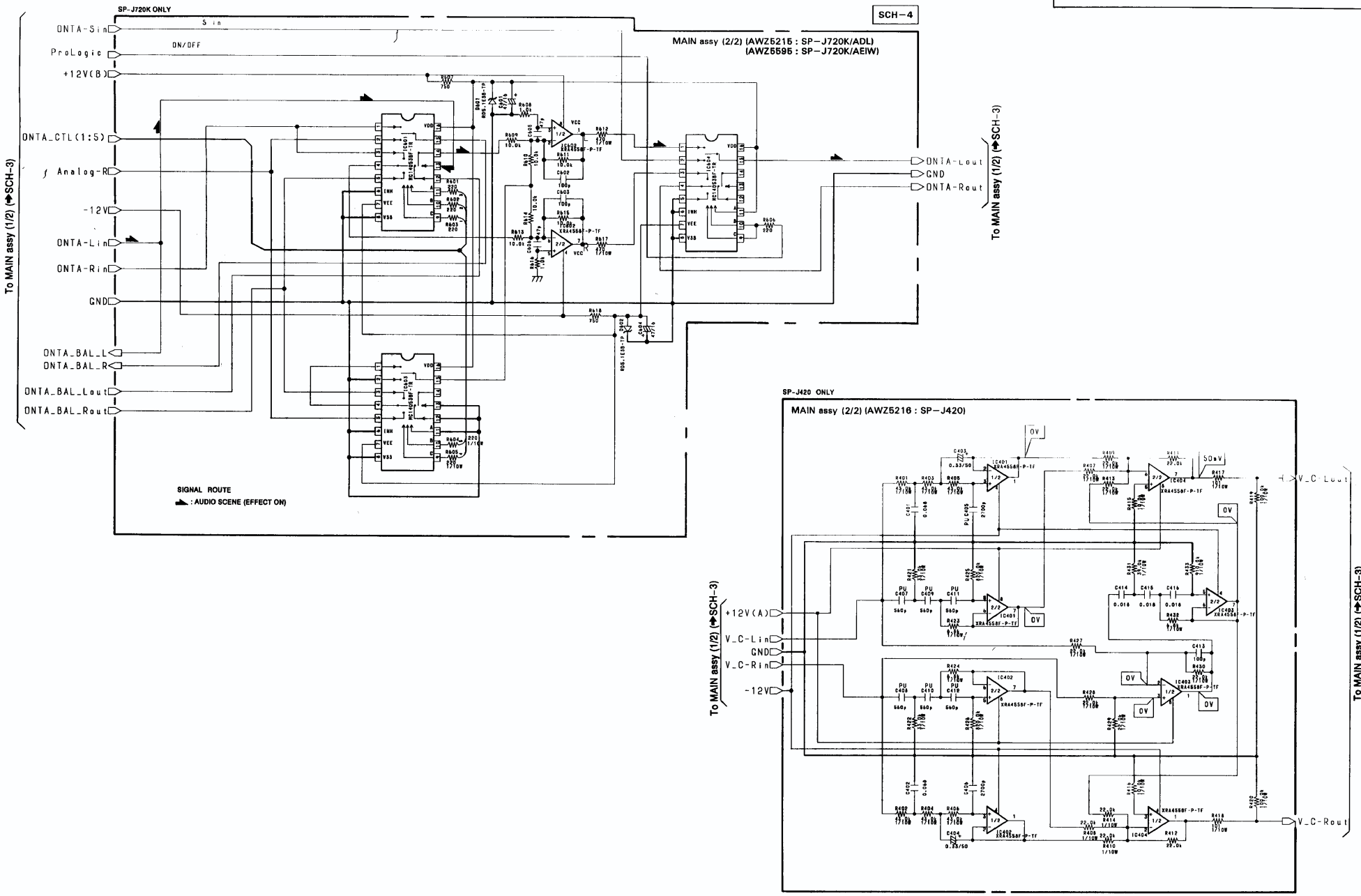
SCH-7 PRO-LOGIC ASSY

PRO-LOGIC ASSY SCH-7

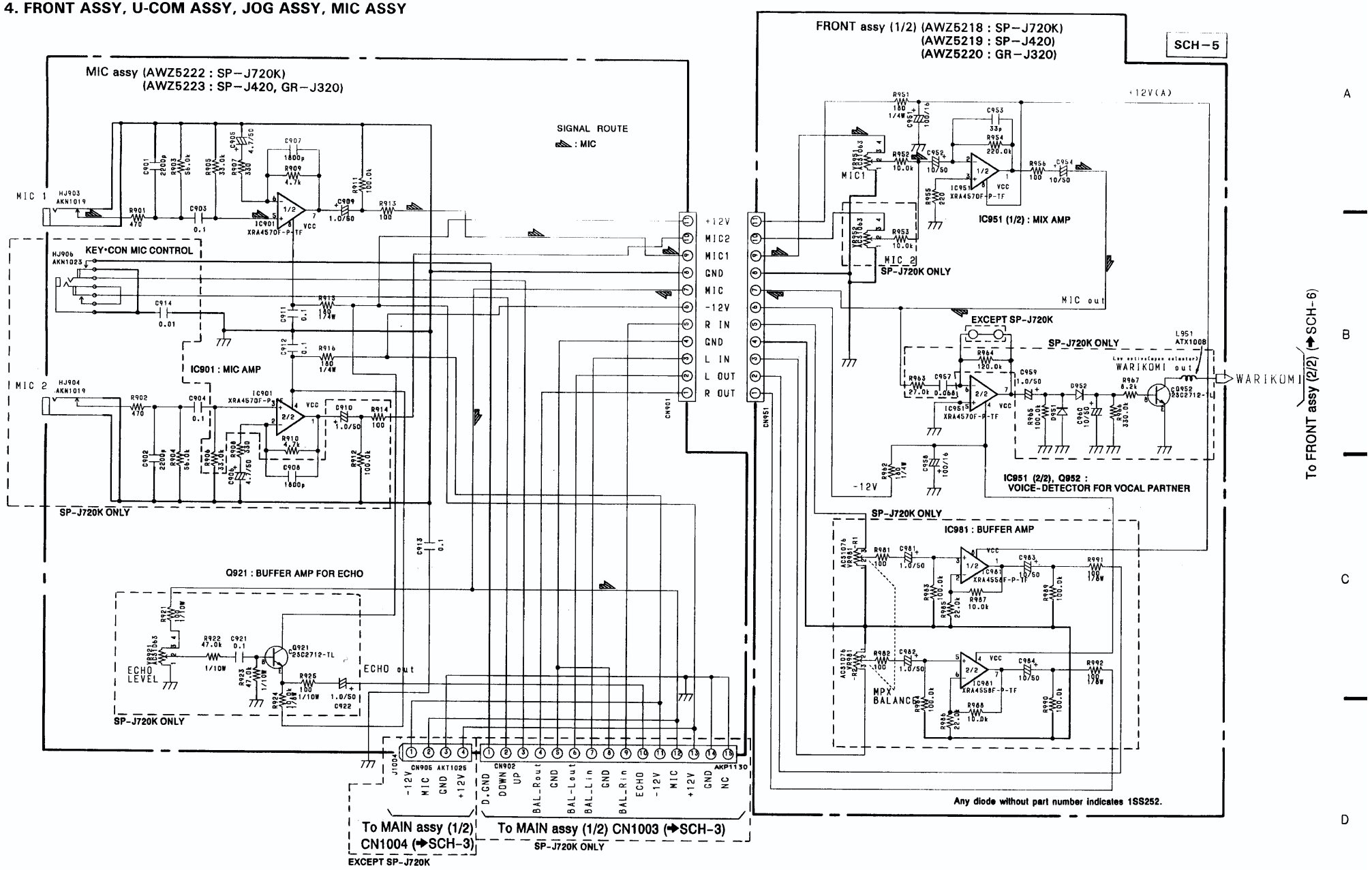


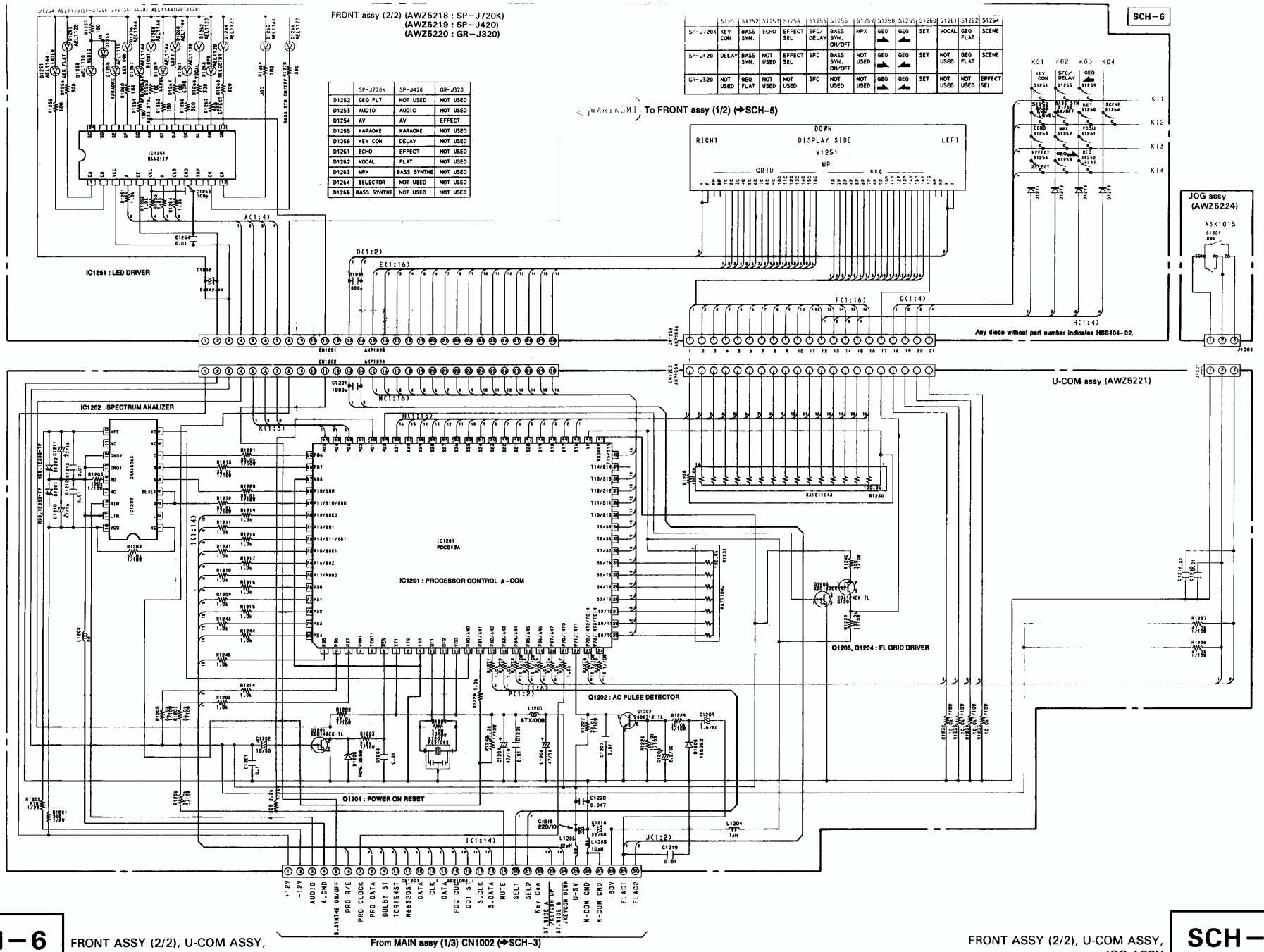
• This diagram is viewed from the mounted parts side.

● This diagram is viewed from the foil side.


SP-J720K ONLY
SCH-4
MAIN assy (2/2) (AWZ5215 : SP-J720K/ADL)
(AWZ5595 : SP-J720K/AEIW)
ONTA-Sin
ProLogic
+12V(B)
ONTA_CTL(1:5)
Analog-R
-12V
ONTA-Lin
ONTA-Rin
GND
ONTA_BAL_L
ONTA_BAL_R
ONTA_BAL_Lout
ONTA_BAL_Rout
To MAIN assy (1/2) (➡SCH-3)
ONTA-Lout
GND
ONTA-Rout
To MAIN assy (1/2) (➡SCH-3)
SIGNAL ROUTE
: AUDIO SCENE (EFFECT ON)
SP-J420 ONLY
MAIN assy (2/2) (AWZ5216 : SP-J420)
+12V(A)
V_C-Lin
GND
V_C-Rin
-12V
To MAIN assy (1/2) (➡SCH-3)
V_C-Lout
V_C-Rout
To MAIN assy (1/2) (➡SCH-3)

4. FRONT ASSY, U-COM ASSY, JOG ASSY, MIC ASSY

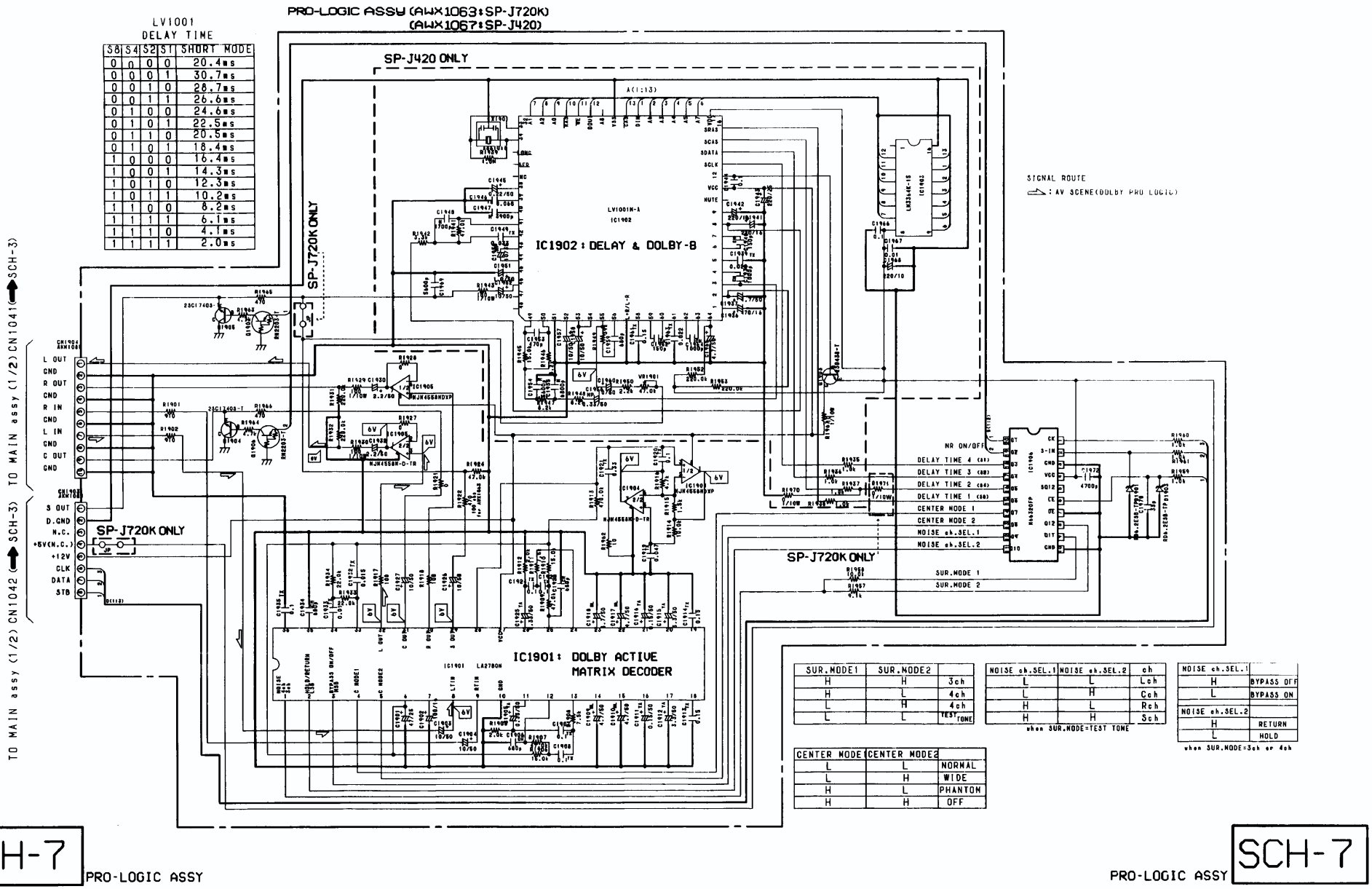




	SP-J720K	SP-J420	GR-J320
D1252	GEQ FLT	NOT USED	NOT USED
D1253	AUDIO	AUDIO	NOT USED
D1254	AV	AV	EFFECT
D1255	KARAOKE	KARAOKE	NOT USED
D1256	KEY CON	DELAY	NOT USED
D1261	ECHO	EFFECT	NOT USED
D1262	VOCAL	FLAT	NOT USED
D1263	MPX	BASS SYNTHE	NOT USED
D1264	SELECTOR	NOT USED	NOT USED
D1266	BASS SYNTHE	NOT USED	NOT USED

	S1251	S1252	S1253	S1254	S1255	S1256	S1257	S1258	S1259	S1260	S1261	S1262	S1264
SP-J720K	KEY CON	BASS SYN.	ECHO	EFFECT SEL	SFC/ DELAY	BASS SYN. ON/OFF	MPX	GEQ	GEQ	SET	VOCAL	GEQ FLAT	SCENE
SP-J420	DELAY	BASS SYN.	NOT USED	EFFECT SEL	SFC	BASS SYN. ON/OFF	NOT USED	GEQ	GEQ	SET	NOT USED	GEQ FLAT	SCENE
GR-J320	NOT USED	GEQ FLAT	NOT USED	NOT USED	SFC	NOT USED	NOT USED	GEQ	GEQ	SET	NOT USED	NOT USED	EFFECT SEL

5. PRO-LOGIC ASSY



LV1001
DELAY TIME

S8	S4	S2	S1	SHORT MODE
0	0	0	0	20.4ms
0	0	0	1	30.7ms
0	0	1	0	28.7ms
0	0	1	1	26.6ms
0	1	0	0	24.6ms
0	1	0	1	22.5ms
0	1	1	0	20.5ms
0	1	1	1	18.4ms
1	0	0	0	16.4ms
1	0	0	1	14.3ms
1	0	1	0	12.3ms
1	0	1	1	10.2ms
1	1	0	0	8.2ms
1	1	1	1	6.1ms
1	1	1	0	4.1ms
1	1	1	1	2.0ms

SUR.MODE1	SUR.MODE2	
H	H	3ch
H	L	4ch
L	H	4ch
L	L	TEST TONE

NOISE ch.SEL.1	NOISE ch.SEL.2	ch
L	L	Lch
L	H	Cch
H	L	Rch
H	H	Sch

when SUR.MODE=TEST TONE

NOISE ch.SEL.1	
H	BYPASS OFF
L	BYPASS ON

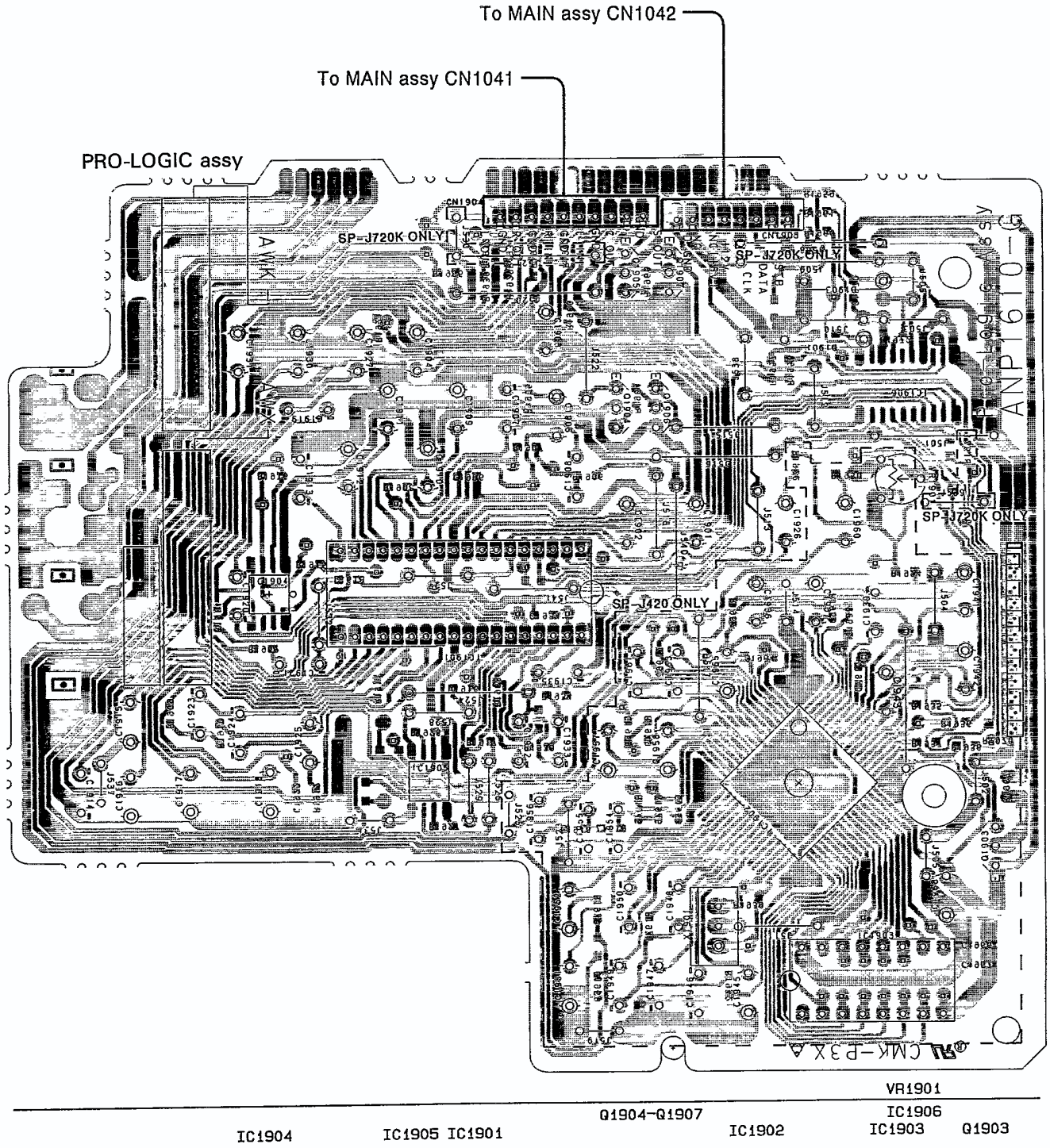
NOISE ch.SEL.2	
H	RETURN
L	HOLD

when SUR.MODE=3ch or 4ch

CENTER MODE1	CENTER MODE2	
L	L	NORMAL
L	H	WIDE
H	L	PHANTOM
H	H	OFF

SCH-7 PRO-LOGIC ASSY

PRO-LOGIC ASSY SCH-7



- This diagram is viewed from the mounted parts side.

- This diagram is viewed from the foil side.